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...LOGUE

of the

THORNTON-PICKARD

PHOTOGRAPHIC SPECIALTIES.

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THE

THORNTON-PICKARD MANUFACTURING COMPANY,

ALTRINCHAM, NEAR MANCHESTER.

Telegraphic and Postal Address: "Thornton-Pickard, Altrincham."

"MANCHESTER GUARDIAN" TYP.

Hints on Instantaneous Photography.

SUCCESSFUL Instantaneous Photography is easy and simple if a little care and judgment is used in observing the necessary points that apply to this kind of work. The most essential conditions are:—

Good light.
A rapid plate.
A shutter having a high co-efficiency.
As full an exposure as the movement of the subject will allow.
A large focal aperture.
Slow development with a very dilute developer, when the plate is under-exposed.

For Instantaneous Subjects as long an exposure should be given as the subject will allow. This depends upon the rate of motion and the distance from the camera, both of which affect the movement of the image on the plate during the moment of exposure.

Movement on the Plate. It is necessary to ascertain how much the subject may move without showing any movement on the plate. It is generally considered that to obtain a sharp photograph the movement of the image on the plate must not exceed 1-100th part of an inch.

Movement of the Subject. The simplest way of arriving at the allowable amount of movement in the subject to obtain a sharp photograph is as follows:—Divide the distance of the subject from the camera in inches by 100 times the length of focus of the lens in inches. For example: Distance of subject 25ft.=300 inches; divide this by the focus of lens, say 6 inches multiplied by $100=\frac{300}{600}=\frac{1}{2}$ inch (allowable amount of movement of subject).

The movement of subject during any given length of exposure can be easily calculated from the known speed per second or per minute, as the case may be.

Focal Aperture of Lens. In ordinary instantaneous work perhaps nothing is more important than to have a lens with a large focal aperture, and for high speed work it is almost necessary. A lens working at *f* 5·6 is twice as rapid as one working at *f* 8; *f* 4 is four times as fast.

Shutter for Extreme Speeds. When such extreme high speed is required, a shutter which fits on the lens will not work fast enough, but our Focal Plane Shutter works up to any desired speed for either a large or small lens. It is by the use of a lens with a large focal aperture and this shutter of high co-efficiency that the best possible results can be obtained.

The Development of instantaneous photographs may be divided into two kinds. Firstly, when all or most of the above conditions have been present, and sufficient exposure has been obtained. Secondly, when the conditions have not been fulfilled, and the plates have been under-exposed.

In the former case no special remarks are necessary; development takes place in the ordinary way; but when the plates are under-exposed (as is almost always the case with an extremely short exposure, such as 1-500th part of a second), special means should be taken to make the best of it. Of these means Text Books are almost always silent or very indefinite. In the development of extremely short exposures we have personally found the following method successful.

FOR THE DEVELOPER we use the three necessary constituents only, viz., Dry Pyro., Ammonia and Bromide in the following proportions: Pyrogallic Acid (dry), 2 grains; Bromide of Potassium, 1 grain; Liquid Ammonia, ·880, 2 minims; Water, 1 oz. (The two latter are conveniently kept as 10 per cent. solutions.)

IN EXTREME CASES. Take an ordinary ammonia and pyro. developer (such as the above) and dilute it with five times the usual bulk of water; development will be very slow, but detail should appear all over the plate. In twenty minutes add an amount of ammonia equal to 25 per cent. of that already used, to make up for that which has evaporated. Repeat the same at the end of the next twenty minutes. After the developer has been used for about an hour, replace it by another made up as at first, and continue the operation in the same manner. After two hours probably no further detail may be coaxed out, but we have sometimes continued for three hours. Very often sufficient density is obtained at the end of two hours (and much sooner, except in extreme cases), but, if not, sufficient density may be obtained by applying a normal developer for a short time.

We have recently obtained good results with an Amidol developer. For extremely short exposures the developer is made up as recommended by the makers (using the Amidol Powder dry), but we dilute it with five times its bulk in water. We can highly recommend this developer in most cases, as it is simpler to use than pyro., owing to the fact that it does not necessitate so much rocking of the dish during prolonged development.

ROCK THE DISH. When using pyro. the developer must be kept moving all the time, or the negative will be covered with spots, &c. We use a simple form of rocking table, which is kept in motion by a heavy weight. Four or five plates in a large or in separate dishes may be kept going at the same time, and attended to as required.

Cover the Dish. During development the dish should be covered with the lid of a larger sized plate box, or other means, so as to avoid fogging of plate by the continuous light of the dark room lamp.

The Dark Room should be comparatively brightly illuminated with a yellow light; development should take place in the darkest corner away from the light, and in the shadow of the person developing.

Thus for ordinary moving subjects, such as street scenes at a little distance, 1-15th of a second may be taken as a standard. For such subjects a slower exposure would show movement, and would therefore spoil the resulting negative. (There are, of course, many subjects that do not require an instantaneous exposure, and by using the Shutter set for "Time" an exposure of 1-8th of a second, or any longer period, may be obtained.)

Bo-Peep.

Exposure ¼ sec. Taken by Mr. Edgar Pickard, with a

THORNTON-PICKARD STUDIO SHUTTER.

HAYFIELD.

COWS.

Exposure $\frac{1}{15}$ *sec.* *Taken by Mr. Edgar Pickard, with a*

THORNTON-PICKARD TIME AND INST. SHUTTER.

IN compiling this Catalogue we have endeavoured to make the description of each article sufficiently plain and detailed to give the intending purchaser a fair idea of the construction and working.

We should be glad, however, if readers would kindly point out any errors that they may notice, or description which is not clear. We are at all times pleased to give any further information desired, and solicit enquiries.

All goods of our make have our name on.

THE THORNTON-PICKARD SHUTTERS.

THERE are doubtless few, if any, practical photographers at the present day who would question the superiority of the Roller Blind Shutter over every other type; and no doubt all who have carefully studied the theory, construction, and practical use of various kinds of Shutters are agreed that there is no other form so satisfactory and reliable. It is now some years since we became convinced of this fact, since which we have made it our business to improve and perfect this particular form of Shutter, and to make it the SHUTTER OF THE DAY. How far we have succeeded may be judged from the fact that The Thornton-Pickard Shutters have now

THE LARGEST SALE IN THE WORLD.

They have been sent to and are in use in the following places, and many others. It will be seen from this list that the Shutters are suitable for use in all foreign climates.

EUROPE.—England, France, Spain, Portugal, Germany, Russia, Austria-Hungary, Italy, Turkey, Greece, Switzerland, Norway, Sweden, Denmark, Holland, Belgium, Malta.

ASIA.—India, China, Japan, Burmah, Ceylon, Palestine, Arabia, Straits Settlements, Java.

AFRICA. Egypt, Algeria, Sierra Leone, Central Africa, Natal, Cape Colony, Bechuanaland, Orange Free State, Mauritius.

AMERICA.—United States, Canada, Mexico, West Indies, Argentina, Bermudas, Brazil, British Guiana.

AUSTRALIA.—New South Wales, Victoria, South Australia, West Australia, Tasmania.

NEW ZEALAND.

FIJI ISLANDS, &c., &c.

THE introduction of our Patent Time and Instantaneous Shutter has made it possible to give *any* exposure, from fractions of a second up to minutes or hours, *without vibration*, and therefore to dispense with the use of the lens cap entirely. This Shutter is used for *all kinds of work*, both by professional and amateur photographers.

THE merits of the Thornton-Pickard Patent Time and Inst. Shutter are so widely known that it is unnecessary to dwell upon them here. We may, however, mention that last season's sales again show an enormous increase upon previous records—another proof of this Shutter's sterling quality and suitability for its purpose.

FOR the information of those who may not have studied the matter, we beg to offer the following remarks upon the

Requirements of a Perfect Shutter:

It should be simple in construction and not liable to get out of order; it should be well made and carefully fitted; it should work without vibration, or the picture will be blurred and the lens will eventually suffer by the constant jar; there should be no sudden reversal of the moving parts, they should be light and well-balanced, and travel in one direction only, otherwise vibration will be unavoidable; the shutter should work equally well in front or behind the lens, and upside down, sideways, or in any other position; it should be safe and not liable to go off accidentally; it should give even illumination all over the picture; it should open instantly, remain completely open for the greater part of the exposure, and then close instantly; the time exposure should be completely under the control of the operator, so that should the subject show signs of movement he can close the shutter by the pneumatic ball instantly, and so prevent the picture being blurred; the release should work with *one* squeeze of the pneumatic ball, so that short exposures, such for instance as 1-4th, 1-6th, or 1-10th of a second (which would be too quick to get with a lens cap, and too slow to get with an instantaneous shutter) may be obtained by squeezing the ball to open the shutter, and letting it go quickly to close; these short exposures cannot be got when two squeezes are necessary. Both in theory and practice the above points are necessary in a perfect shutter for all-round work. *The Thornton-Pickard Time and Instantaneous Shutter possesses every one of them.*

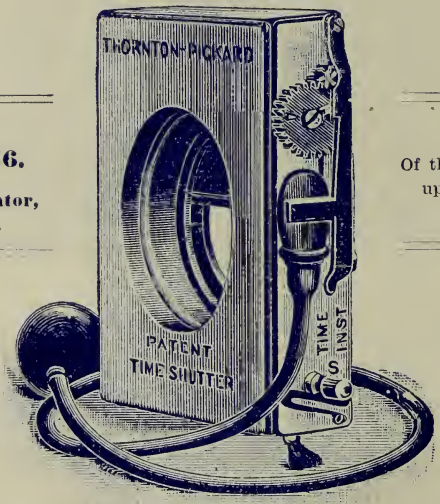
THE

THORNTON-PICKARD

PATENT

PRICE
From 18/6.

Speed Indicator,
3/6 *extra.



SPEED
Of the smallest size up to **1-90th** of a second.

FIG. 1.

TIME & INSTANTANEOUS SHUTTER

Standard Pattern. To fit on either the Hood or Tube of the Lens.

PARTICULARS of the SMALLEST SIZE, to fit Hood or Tube up to 1⅛ inches diam.: WEIGHT, 5ozs. DIMENSIONS, 3¼ x 2⅝ x ⅞ inches. RANGE OF SPEED, from 1-15th to 1-90th of a second for Instantaneous, and prolonged Time Exposures also.

THE above illustration shows the external appearance of the THORNTON-PICKARD Time and Instantaneous Shutter, which is the one recommended for general all-round work. The Shutter is simplicity itself; there is no complicated mechanism to get out of order. It is a perfect substitute for the lens cap, and much more handy and reliable.

The same Shutter may be used with any number of lenses, of different sizes, by the use of our Patent Adaptors (price from 8d. each) described on page 17.

The Shutter is fully described on the two following pages.

** When a Speed Indicator is not fitted an Ivory Label is attached to every Shutter showing the highest and lowest speed at which the Shutter will work for Instantaneous Exposures.*

Description of the Thornton-Pickard Time and Instantaneous Shutter (Standard Pattern).

THE Illustration Fig. 2 shows the Shutter in section. In the interior of the case (which is made of mahogany of a rich dark colour, and is nicely polished and finished) there are two rollers A and B, one at the top and the other at the bottom. A piece of flexible and perfectly light-proof cloth D, the full width of the case, is joined at its opposite ends to these rollers, so that it can be wound off one on to the other like a blind or curtain. Midway in the blind a rectangular hole is cut somewhat larger than the lens hood; this is indicated by the thick dotted line H. The interior of the bottom roller contains a spiral spring made of the best line steel wire. This spring can be wound up to increase the speed by the knob S (see Fig. 1). The spring catch (shown in the same illustration) drops into a notch cut in the knob, for the purpose of holding it when wound up. A slight downward pressure on this catch will allow the spring to run down to its lowest tension. After letting the driving spring run down to the lowest, one or two turns should be given to the knob, if necessary, so as to put sufficient tension on the spring to just pull the blind down. This remark does not apply if the Shutter is fitted with a Speed Indicator, as the latter forms a stop and prevents the spring from unwinding too far and also from over-winding. At the end of the top roller is a small pinion, which works into a toothed wheel on the outside of the case, as seen in Fig. 1. The arm or pointer, also seen in the engraving, may be placed at "TIME" or "INST." When the Shutter is worked with the pointer at "Inst.," as shown, it keeps clear of the wheel, and allows the blind to run to the bottom, giving an Instantaneous exposure; but if the pointer is placed at "Time" the wheel is stopped by means of a projecting stud, which causes the half-unwound blind to remain open and give a prolonged exposure, until the ball is released. At the end of the top roller, inside the case, there is a pulley P, on to which the cord C winds. This cord, which is made specially strong for the purpose, terminates in a small tassel as shown. The Shutter has a large round aperture through it from back to front. The back part is recessed, and is lined with a piece of Patent Rubber Moulding R, of special form, for the purpose of accurately fitting the lens, which is also shown. Should the fit be rather too slack, it may be made tighter by turning an adjusting screw at the side of the Shutter, not shown in the engraving.

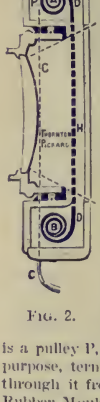


FIG. 2.

The action of the Shutter is as follows:

For an Instantaneous Exposure place the lever opposite the word INST. (See Fig. 1, page 4.) The cord is then pulled out as far as it will come by means of the tassel, which causes the wheel to revolve until the second stud catches in the notch of the lever, making two clicks. The pulling of the cord winds the blind upon the top roller, so that the opaque bottom end covers the opening, and consequently the lens. If, now, the pneumatic ball is pressed, it will lift the lever clear of the stud and release the wheel, allowing the blind to rapidly re-wind upon the bottom spring roller. The aperture in the blind therefore passes rapidly across the opening in the Shutter case, which is instantly covered again by the opaque end of the blind. The exposure thus given is an Instantaneous one.

The Duration of the Exposure can be ascertained by counting the number of turns given to the speed knob S, and referring to the Ivory label on the side of the Shutter, which gives the highest, lowest, and the medium speeds. Intermediate number of turns may be given to the speed knob, which will give Intermediate speeds. For a small extra charge the Shutter is fitted with a *Speed Indicator* (see Fig. 3.) This consists of a dial, marked in fractions of a second, attached to the side of the Shutter, and a pointer on the end of the spring-roller spindle. The speed is indicated on the dial in fractions of a second by the pointer, which can be set to the speed desired by means of the knob. The Indicator is a great acquisition; it does not retard or affect the working of the Shutter in any way, and is strongly recommended.

[*Continued on next page.*

Time and Instantaneous Shutter (Standard Pattern)—*(continued).*

THE speeds of each size of Shutter have been arrived at after a series of very careful tests with apparatus constructed specially for the purpose.

For Time Exposures the cord is pulled to its limit as before, but the lever is placed opposite the word "TIME." On squeezing the pneumatic ball the blind stops open by means of the stud, which catches in the notch of the lever as before described; it remains open until the pressure on the ball is released. Thus a Time exposure of any required duration may be given. In this case the exposure commences instantly the ball is squeezed, and terminates immediately the pressure is released. Beyond this there is no limit to the duration of the exposures that may be obtained.

FIG. 3.

For very long Exposures, such, for instance, as are required for INTERIORS, there is no necessity to hold the ball all the time. Without first setting the Shutter pull the cord *half-way*, that is, until the first click is heard. This sets the Shutter full open, and it may be left so for the desired time of exposure, after which it can be closed by simply squeezing the ball.

For Focussing, the Shutter remains open in the same manner, that is, if the cord is pulled only half-way—until the first click is heard.

THIS Shutter is very suitable for **HAND CAMERAS**, and when required is fitted with special form of Release and Self-Capping Blind, as described on page 8.

ALL our Shutters are made upon the Roller Blind principle (like the above): it is unquestionably *the best*, and it is acknowledged to be so by all experts—both in theory and practice. They work with an ease and perfection that is surprising, and relieve the mind of the operator of every care pertaining to the exposure. No other Shutter has yet been invented that has the same advantages.

THOSE who have not time to study the Catalogue in detail should not miss reading "Hints on Instantaneous Photography," and the "Requirements of a Perfect Shutter" (page 3).

Aluminium Fittings for Time and Instantaneous Shutter, 5/- extra.

Sky Shade and Flap (attachable and detachable); also acts as a Safety Flap; from **3/6.**

Instructions for ordering will be found with the Price List, page 36.

THE THORNTON-PICKARD PATENT

BEHIND-LENS SHUTTER

(Time and Instantaneous).

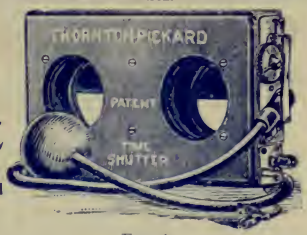
THIS Shutter is of exactly the same construction as the above Standard Pattern, but is arranged to be screwed to the Panel of the Camera Front, as in the illustration of the Ruby Camera on Fig. 21, page 24, practically acting as an inside Shutter. It then forms a part of the Camera, and is always firmly attached and in position. The back is fitted with velvet, which ensures a light-tight joint when the Shutter is screwed to the Panel of the Camera Front. The lens flange is screwed to a detachable panel which fits into the front of the Shutter. Extra Panels for other Flanges may be had, so that any number of lenses may be used with the same Shutter, and any one instantly dropped into its place ready for immediate use.

Price List, page 36. Speed Indicator **3/6** extra.

Other patterns of Shutters made as Behind-Lens Shutter to order, price 2/6 extra.

The Shutter should be attached to the Camera Front Panel by four ordinary small screws passed through from the back of the Panel into the velvet-covered back of the Shutter. Care should be taken that these Screws are not too long so as to injure the blind.

THE THORNTON-PICKARD PATENT STEREOSCOPIC SHUTTER (TIME and INST.)



To Fit on the Hoods or Tubes of Lenses. FIG. 4.

FOR Stereoscopic work a good Time and Inst. Shutter is an *absolute necessity*. This is the Simplest and the Best Shutter for the purpose. It is constructed upon exactly the same lines as the Standard Pattern Time and Inst. Shutter, of which a detailed description is given on pages 4 to 6. It has a great range of speed for Instantaneous Exposures, in addition to Time Exposures, and will, therefore, give any exposure from fractions of a second up to minutes or hours. The exposure is exactly the same to each lens, and there is no vibration.

THIS SHUTTER IS UNEQUALLED FOR STEREOSCOPIC WORK.

PARTICULARS OF THE SMALLEST SIZE, for 1⅞in. hoods up to 3¼in. centres: Weight, 8ozs. Dimensions, 3¼ x 6½ x ⅞ inches. Range of Speed, from 1-15th to 1-90th of a second, and prolonged Time Exposures also.

PRICE, from **26 -** Speed Indicator, **3 6** extra.

Price List, page 36; *Instructions for Ordering, page* 37.
Particulars of Speed Indicator and Table of Speeds, page 18.

BEHIND-LENS STEREOSCOPIC.

THIS is a special form of the above Shutter to be attached to Camera Front. The lenses are mounted upon a detachable panel that fits into the front of the Shutter. The Shutter therefore works behind the lenses, practically forming an Inside Shutter, and is always in position ready for work. The detachable panel can be instantly removed when it is desired to substitute another carrying other lenses, or a single lens. The opening in the blind being the full width of the Shutter permits the using of either a pair of lenses for Stereoscopic work, or a single lens opposite the centre of the plate for ordinary views.

PRICE, from **29 6.** Speed Indicator, **3 6** extra. *Price List, page* 36.

BEHIND-LENS Stereo., with ADJUSTABLE CENTRES.

IN this pattern the Shutter Panel carries two smaller Panels which slide laterally in grooves, and the lens flanges are mounted on these. The adjustment is made by simply turning a small milled wheel or screw, so that the centres can be varied from 2⅜in. to 3¼in.

PRICE, from **34 6.** Speed Indicator, **3 6** extra. *Price List, page* 36.

THE following are special forms of Time and Instantaneous Shutter, suitable for special requirements. They are a little more bulky than the Standard Pattern Time and Inst., but in other respects have equal advantages. A general description of the working will be found on pages 5 and 6.

EXTRA-RAPID SHUTTER (Time and Inst.)

A Shutter having two openings in the double blind, which cause it to open from and close to the centre. Speed, one half quicker than the Standard Pattern Time and Inst. Shutter. Speed of the smallest size up to 1-130th of a second. Table of Speeds on page 18.

FOREGROUND SHUTTER (Time and Inst.)

GIVES more exposure to the foreground than the sky. Specially suitable for cloud effects, landscapes, seascapes, and similar subjects. NOTE.—This Shutter is recommended on the Hood in preference to the Tube. Speed of the smallest size up to 1-90th of a second, same as Standard Pattern Time and Inst. Shutter. Table of Speeds on page 18.

PRICE, of both the above, from **23 6.** Speed Indicator, **3 6** extra.

Price List, page 36; *Instructions for Ordering, page* 37.

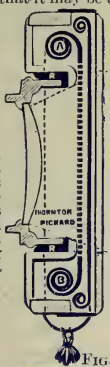
SHUTTERS FOR HAND CAMERAS

Time & Instantaneous (Standard Pattern).

PRICE, from **17/6.** *Price List, page* 38.

Speed from 1-90th of a second up to any longer time.

This is the best, and is unequalled by any other form of Shutter. It may be fitted in front or behind the lens, and sideways or upside down. It is equally efficient in any position, and give all exposures from fractions of a second up to any desired length of prolonged "Time" exposures It is quickly adjusted, and free from vibration. A full description of the Shutter will be found on pages 4 to 6. The winding or setting cord of the Shutter is left extra long so that it may be cut to the desired length after fitting to the Camera. It is fitted with a cord and button for the release, but either pneumatic ball and tube or trigger release are fitted for 1/- extra when so ordered. The smallest size (which fits on a lens hood or tube up to 1¼in. diameter) measures only 3¼in. x 2⅝in. x ⅞in.



Fitted with Self-Capping Blind.

PRICE, from **22/6.** *Price List, page* 36.

The Self-Capping Blind is a very valuable adjunct to the above Shutter, and only increases the size by ⅛in. in thickness. It automatically covers the lens whilst setting the Shutter for the next exposure, and as soon as the Shutter is set it springs back again, leaving the lens free to pass light as soon as the Shutter is released to make the exposure. Thus the sensitive plate may always remain uncovered in the Camera ready for instant use. The Self-Capping Blind is very necessary when using a Magazine or Roll Holder in the Hand Camera. A reference to Fig. 5 will show the working of the Shutter and Self-Capping Blind. The smallest size of Shutter with Self-Capping Blind (which fits on a Lens Hood or Tube up to 1¼in. diameter) measures 3¼in. x 2⅝in. x 1in.

FIG. 5

Combined Lens and Shutter.

PRICE, £5. 12s. 6d. Speed Indicator, **3/6** extra.

This is exactly the same as the one fitted to the Thornton-Pickard Hand Camera (page 30), and meets a great want which has been felt by makers of Hand Cameras, viz.:—the need for a very fast lens with a Thornton-Pickard Shutter between the combinations, so that it should be compact and occupy no more room in a Hand Camera than the lens itself, the Shutter giving every length of exposure required, and being Self-Capping.

The Combined Lens and Shutter is the most perfect ever introduced.

The quality and workmanship are of the best.

The fittings are of Aluminium, and therefore very light.

The Lens is of the finest English manufacture, the best that we know of, and is fitted with Iris Diaphragm, which may be set by the pointer to the scale as shown in Fig. 6. It works at the large aperture of *f*5·6, and is, therefore, suitable for very rapid work.

The Shutter is the Time and Inst. (Standard Pattern), giving exposures from 1-90th of a second up to any desired length of time, and is fitted with the Self-Capping Blind as described above.

The Shutter and Self-Capping Blind work between the combinations of the Lens, and the whole is combined into the smallest possible space. For those requiring a first-class Lens and Shutter nothing better can be had.

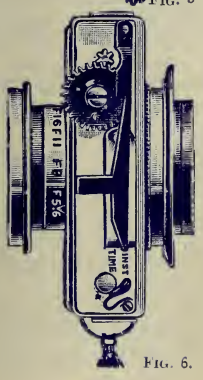


FIG. 6.

Testimonials FROM USERS OF The Thornton-Pickard Shutter.

UNITED STATES OF AMERICA.

"Five years' experience of your Shutters makes me believe there is no better."—F. D. T.

"For the last couple of years I have used one of your Time Shutters with the greatest satisfaction. Nearly all of my exposures since I first possessed the instrument have been made through it."
J. C. S.

"Five years' experience of a Thornton-Pickard Time and Instantaneous Shutter, during which I made thousands of exposures without a hitch, convinces me of its practical value."—F. D. T.

SWEDEN.

"I am very pleased with the Time Shutter, indeed; it has great range of speed, no vibration at all, is light and solid, easy to work, and gives an even exposure over the whole field. The Time arrangement is excellent and safe. Of course, it is much more convenient to use the Shutter instead of the lenscap for what are called Time exposures."
P. K.

PRUSSIA.

"It is a great pleasure for me to pronounce that I am very content with your Shutter. I take every opportunity of recommending your Shutters to every photographer."—P. K.

FRANCE.

"I am highly satisfied with the two Shutters you supplied some time ago."—C. D. A.

"It has given me entire satisfaction, and I have succeeded better with it than other Shutters."
H. R. P.

ITALY.

"We are perfectly satisfied with it, in fact we are quite sure and are prepared to say it ranks the first amongst all its sort of Photographic Apparatus we have here in Italy."

CAPE COLONY.

"I have had one of your Time Shutters in use for some time, and found it the best I have ever used. In fact it is a pleasure to work with it."—
W. L. C.

INDIA.

"I find absolutely no vibration in either the Time or Instantaneous movements, freedom from which I have found in no other Shutter (and they are many) that I have tried."—F. D.

SINGAPORE.

"I have had this Shutter over four years, and have used it many hundreds of times, and it has never failed me. When I got the Shutter several of my friends prophesied that it would not stand this tropical climate, but I am pleased to say that it has done all that could be desired. It was the first of its class to come out here, and now there are several dozens in the settlements, and I have not heard of one failing."—A. W. B.

NEW ZEALAND.

"The Shutter gives my customer great satisfaction."—E. B.

INDIA.

"I work with no other. It never fails me, and there is no vibration. This Shutter is especially good for India, as there is nothing to rust about it."—*Journal of the Photo Society of India.*

CHINA AND JAPAN.

"The Shutter has proved very serviceable both in China and Japan."—W. D. R.

AUSTRALIA.

STEREOSCOPIC SHUTTER.—"The Shutter works very well."—H. R. E.

NEW ZEALAND.

"The Shutter has come to hand. It *fits* like a *glove*, and *works* like a *charm*."—W. D.

"It may interest you to know that your Time and Instantaneous Shutters are quite the most popular I have seen out here."—C. T. R.

BRITISH GUIANA.

"Though it is scarcely possible to find a climate worse for all rubber goods than this, we have never experienced any trouble with the blind, and our Hand Camera has on many occasions of exposure become quite hot in the sun."—H. & Co.

"I may mention that during eighteen months' not very careful use, including much cycle travelling, it has never given me a moment's trouble."
H. G.

"I have had one of your Time and Instantaneous Shutters in use for some years, and it is still in as good working condition as when I got it, and I can assure you it has given every satisfaction. I really think it has no equal."—R. S.

"I have used it for *everything*, and could not possibly do without it, it is so useful. I have recommended your Shutters to several friends, and who I know have purchased them and like them as well as I do."—I. W. T.

What the Press says:—

"Its action is really admirable, the mechanism being both ingenious and simple. It is well made, and the various actions are effected without any jar."—J. TRAILL TAYLOR, Esq., Editor *British Journal of Photography*.

"The Thornton-Pickard Time Shutter exactly fulfils your requirements."—*Photography*.

"The Thornton-Pickard Time Shutter is a very good instrument. We have used one for the past two seasons, with considerable pleasure and success."—*Photography*.

"We can thoroughly recommend the Thornton-Pickard Time and Instantaneous Shutter, and think you will find it the preferable of the two"—*Photography* (Answers to Correspondents).

"The Shutter of Thornton-Pickard, shown by several dealers, still holds the palm, and it will be noticed that several of the chief makers of Hand Cameras have adopted it. There is perhaps no accessory on which so much ingenuity has been spent—and wasted—as the Instantaneous Shutter. The demand for rapidity has for years been so insatiable that many scores of patents have been brought out. But in most cases the complicated mechanism adopted has not been able to stand the wear and tear of constant use. The Thornton-Pickard Shutter is almost the only one which has withstood all tests, and is usable for 'Time' as well as 'Instantaneous' purposes."—*The Globe*.

THE

THORNTON-PICKARD

FIG. 7.

SNAP SHOT SHUTTER.

PRICE from 10/-

Speed Indicator, 3/6 extra.

(Price List, page 36.) *Speed from 1-90th sec.*

For all kinds of Instantaneous Subjects. It is the Simplest. It is the Cheapest and Most Efficient. It is well-made and beautifully finished.

AS its name implies, this is an Instantaneous Shutter. It has the merit of great simplicity, coupled with a great range of speed (see Table of Speeds on page 18).

LIKE the Thornton-Pickard Time and Instantaneous Shutter, it is made upon the roller-blind principle, and is therefore absolutely free from vibration when working. Although low in price, it is just as well made and finished. The motive power is obtained by a spiral spring made of the best fine steel wire.

THE general construction and working of the Shutter will be readily understood by reference to the description of the Time and Instantaneous Shutter (Standard Pattern) described on page 5, the main point of difference being that this Shutter is not adapted for prolonged Time exposures. For Instantaneous work, it is all that can be desired, and is readily adjusted for various speeds.

The Speed Indicator described on page 18, and shown in the accompanying illustration, is strongly recommended. It shows the speed of the Shutter at a glance.

FIG. 8.

For Hand Cameras this Shutter is very suitable and when required is fitted with special form of release and Self-Capping Blind as described on page 8.

No Vibration with the Snap Shot Shutter.

PARTICULARS OF THE SMALLEST SIZE, to fit Hood or Tube up to 1⅜in. diameter: Weight, 4½ozs.; Dimensions, 3¼ x 2⅜ x ⅞ inches; Range of Speed, from 1-15th to 1-90th of a second.
(Table of speeds page 18.)

Instructions for ordering, page 37.

The Shutter works equally well whether fitted to the Lens Hood or the Lens Body.

TESTIMONIALS.

"The Snap Shot Shutter is a little 'gem' and will, I feel sure, give great satisfaction."—W. E. P.
"I am very pleased with it, and believe it capable of doing all that it has been designed to do."—W. V. W.
"I have an 1⅛in Snap Shot Shutter, with which I am very well pleased."—A. K.
"The Snap Shot Shutter works perfectly."—A. T.
"I have a Snap Shot Shutter and am very pleased with it."—I. M. R.
"The Shutter works well, without perceptible vibration."—U. F

THE THORNTON-PICKARD SPECIAL SHUTTER

Fig. 10.

For High Speed Instantaneous Work.

Speed of the smallest size up to 1-180th of a second.

PRICE, from 23/6. Speed Indicator, 3/6 extra. *Price List, page 36.*

FOR those who require a quicker Shutter than the ordinary Time and Inst. pattern, for special work, this is the quickest form of Roller Blind Shutter it is possible to make to work on the lens. It has a double blind having two openings, which pass across the lens in opposite directions at the same time; the Shutter therefore opens from and closes to the centre.

ALTHOUGH it cannot be made to give such short exposures as our Focal Plane Shutter (which fits into the back of the Camera), it is fast enough for many subjects that require a very rapid Shutter, and possesses the great advantage of being small in bulk. It is fitted in front of the lens, and has a great range of speed.

IT is suitable for such special work as race finishes, athletes running, jumping, or leaping, animals in motion, and similar subjects.

THE Shutter is wound up by turning a knob. An extra strong driving-spring is used, and the various parts are made specially strong to withstand the extra strain.

THE other details of its general construction and working will be readily understood by reference to the description of the Time and Instantaneous Shutter (Standard Pattern) described on page 5, the main point of difference being that this Shutter works at twice the speed, and is not adapted for prolonged Time Exposures.

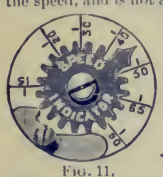


Fig. 11.

THE Speed Indicator described on page 18, and shown in the accompanying illustration, is strongly recommended. It shows the speed of the Shutter at a glance.

NO VIBRATION WITH THE SPECIAL SHUTTER.

PARTICULARS OF THE SMALLEST SIZE, to fit Hood or Tube up to 1⅝in. diam. Weight, 6¾ ounces; Dimensions, 5 × 3¼ × 1⅛ inches; Range of Speed from 1-30th to 1-180th of a second (twice as fast as the Standard Pattern Time and Inst. Shutter).

(*Table of Speeds, page* 18.)

WHEN ORDERING

Please send a narrow strip of paper just long enough to meet round the Lens Hood or Tube.

NOTE.—*This Shutter is recommended to be used on the Lens Tube in preference to the Hood.*

TESTIMONIAL.

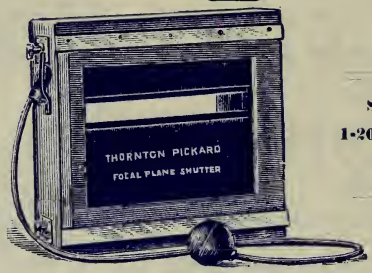
WE have fully tested the Special Shutter upon the Chronograph, and find the claim of the Company for very high speed is fully justified; the image which it cast at all speeds being sharp and clear, thus denoting full illumination. We congratulate the Company upon the undoubted success they have obtained in the construction of this Shutter.- HENRY STURMEY, Esq., Editor of *Photography.*

THE

THORNTON-PICKARD

PATENT

PRICE from 35/-
Speed Indicator,
3/6 extra.



SPEED from
1-20th to **1-1000th**
of a Second.

FIG. 12.

FOCAL PLANE SHUTTER

WITH PATENT ADJUSTABLE SLIT.

PRICE, from **35/-** Speed Indicator, **3/6** extra. Price List and Instructions for Ordering, page 37.

SPEED ranges from 1-20 to 1-1000 of a second in every size of this Shutter.

PARTICULARS OF THE SMALLEST SIZE, for 4¼ x 3¼ in. plates:
Weight, 10ozs. Dimensions, 5⅛ x 6 x 1¼ inches (not including Adaptors).

FOR those who desire to obtain instantaneous photographs of subjects having an extremely rapid movement, such as flying birds, animals and men leaping, jumping, &c., &c., this is the best Shutter. It gives a shorter exposure and passes a larger percentage of light than any other form.

[*Continued on following page.*

The Thornton-Pickard Focal Plane Shutter—*(continued.)*

THE "Focal Plane" Shutter is made upon the Roller Blind principle, like all the Thornton-Pickard Shutters. It fits at the back of the Camera, and the dark slide fits into the back of the Shutter. The Shutter Blind, therefore, works just in front of the plate, and has a narrow slit in it the full width of the plate, which gives the exposure as it passes rapidly across. The speed is regulated by means of a small knob that winds up the driving spring, and also by altering the width of the Adjustable Slit. The Speed Indicator, described on page 18, is always fitted to this Shutter unless otherwise ordered.

The Winding Indicator is an arrangement which automatically prevents the blind being wound up too far when setting the Shutter, and will be found on the opposite side of Shutter from the Winding Knob. When it is required to focus, wind the blind up as far as it will go, then press the spring lever over the Winding Indicator with the finger of the other hand, and continue the winding. The blind will now open to the full size of plate for focussing, and in this way Time exposures may be made with the cap of the lens, or with a Time and Inst. Shutter fitted to the lens.

For prolonged exposures the Shutter is wound up to the top as when focussing, and a cap or a Time Shutter may be used in the ordinary way without removing the Focal Plane Shutter from the Camera.

A good and very easy way of giving Time exposures when the lens is not fitted with a Time and Inst. Shutter, is to remove the cap at the commencement of the exposure, whilst the Shutter is full open, and squeeze the ball to finish it, the Shutter will then immediately close.

The New Patent Adjustable Slit

IS added to all Focal Plane Shutters, in addition to the adjustable spring roller, without extra charge. This improvement adds greatly to the range of speed of the Shutter, extending from 1-20th of a second to 1-1000th of a second, in all sizes of Shutters, and allowing not only for the fastest instantaneous work possible, but also for all ordinary instantaneous work down to the slowest. This simple and ingenious invention is the only practical and perfect method which has yet been devised for varying the width of the slit in a Focal Plane Shutter. It is done by means of a chain at each end of the slit, which can be lengthened and shortened at will, making the sides of the slit perfectly parallel without skill.

Directions for Altering the Width of Slit.

AFTER removing the focussing screen take hold of the two struts which form the parallel sides of the slit in the blind, and turn them askew, at the same time drawing them forward out of the Shutter. The chains at the ends of the slit can then be manipulated. It will be observed that one end of the chain is fixed permanently to one strut, while the other part of the chain is linked on to the extreme end of the other strut, the end of it passing inwards along the length of the strut. This part may be pulled out and linked on to the end of the strut to make the slit wider, or allowed to spring back into the strut which makes the slit narrower. All that is necessary is to see that the same number of links are used at each end of the slit.

The Speed of the Shutter

IS found by DIVIDING THE SPEED GIVEN ON THE INDICATOR BY THE NUMBER OF LINKS IN USE at each end. That is to say, with only one whole link the speed is that given on the Indicator; with ten links (which is the extremity) it is one-tenth of the same.

NOTE.—Unless ordered otherwise, a Speed Indicator is fitted to all Focal Plane Shutters.

Hints on the development of very short exposures will be found in the Catalogue.

Fitting the Shutter to the Camera.

(No extra charge is made for fitting if the Reversible Back with Focussing Screen and a Dark Slide are sent us when ordering.)

THIS Shutter can be readily fitted to almost every kind of Camera, including those of the American type in which the focussing screen is fast to the Camera. We make the Shutter to fit at the back of the Camera in place of the reversible back, which is therefore not required, as the Shutter itself is made to reverse instead. It does not alter the Camera in any way, and the reversible back can be substituted in a moment, whenever desired. The Shutter is made with a wooden flange which may be cut down to the required size. Similar pins or catches should be fitted on the Shutter to those that are used on the reversible back. The focussing screen sent out with the Shutter should be made to register with the slides.

In a few Cameras (such for instance those having no reversible back) we make the Shutter to occupy the same grooves in the Camera that the dark slide fits; or, if preferred, fix the Shutter permanently at the back of the Camera. In either method the back of the Shutter is made to receive the dark slide.

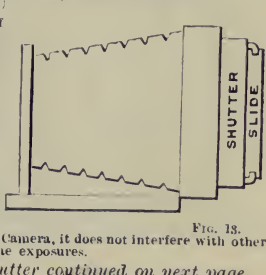


FIG. 13.

NOTE.—When the Focal Plane Shutter has been fitted to a Camera, it does not interfere with other Shutters working on the lens, nor with the use of lens cap for Time exposures.

[Focal Plane Shutter continued on next page.

The Thornton-Pickard Focal Plane Shutter—*(continued.)*

Some advantages of the Focal Plane Shutter.

FOR High Speed Instantaneous work the advantages of the Focal Plane Shutter have not been thoroughly appreciated. It is capable of giving results that cannot be obtained by any other form of Shutter. For the information of those who may not have studied the matter, we beg to draw attention to the following facts.

In the first place it should be remembered that the speed at which a Shutter ought to be worked is limited by the rate of movement of the object photographed, and its distance from the Camera. This is the *primary factor* in all instantaneous work.

The second important factor is the quality of the light and the intensity or rapidity of the lens. We are assuming that the speed of the plate is the most rapid obtainable. A fast plate is an *absolute necessity* for extremely short exposures.

To obtain the best results with an exposure of say 1-200th of a second, a lens having a large focal aperture must be used, or the plate will be very much under-exposed.

A lens working at *f* 4 will pass four times as much light as *f* 8, and will, therefore, take a photograph with a proportionately shorter exposure, Such a lens, however, is proportionately larger; a shutter fitted to the hood of same is also larger, and therefore will not give nearly as short an exposure as one of a smaller size, and especially so as the opening in the shutter must be as large or larger than the diameter of the lens. It will be seen from this how it is that this Shutter is so much superior for obtaining high speed results with large sizes of Cameras, such as 12in. x 10in., and 15in. x 12in.

The advantage of the Focal Plane Shutter is that it works just as quickly with a large lens as with a small one. Using a small lens, and a small shutter on the front of it, may give the speed required, but will not pass the requisite amount of light, and therefore will only result in under-exposure. Sufficient light can be admitted by lengthening the exposure, but this, of course, would result in a blurred image, owing to the object moving during exposure.

The short exposures obtainable with the Focal Plane Shutter are due to the fact that only a part of the plate is exposed at once. The Shutter consists of a Roller Blind working in front of and close to the plate. The blind has a narrow slit in it which travels rapidly across the plate. The whole exposure is made, say, for the quarter-plate size (4¼in. by 3¼in.) in 1-50th part of a second, but assuming that the slit is only 1-10th the width of the plate, each particular portion of the plate will receive only 1-10th of that exposure, viz., 1-500th of a second.

Exception might be taken on the ground that in a subject such as an athlete running, or a man diving into water, the portion of the figure exposed last would be slightly in advance of the portion exposed first. This is, in fact, theoretically true, but the whole duration of the exposure from first to last being so very rapid this slight distortion is practically nothing, and is quite invisible to the eye. This may be proved by reference to the photographs reproduced in this Catalogue.

We may mention one minor advantage of the Focal Plane Shutter, viz., that it protects the plate from rays reflected from the inside of the bellows during exposure; none can pass except through the narrow slit, owing to the opaque portion of the blind being close in front of the plate.

TESTIMONIALS.

"I am extremely pleased with the Focal Plane Shutter, which I have tried under very adverse circumstances, and I must say it is infinitely the best kind of Shutter I have ever handled."—T. C. P.

"Your Focal Plane Shutter is a splendid instrument."—H. M.

"I am very pleased with the Focal Plane Shutter. The principle upon which it works is, I am sure, the best one yet invented for a shutter of such high speed."—E. H.

"The Adjustable Slit is a great improvement."—A. P.

"I believe in the principle of the Shutter, and think you have carried it out very satisfactorily."—P. R. T.

"I have great pleasure in informing you that the Shutter has given me every satisfaction."—W. K.

"The Adjustable Slit is a wonderfully ingenious arrangement, and adds much to the utility of the Shutter."—R. B. L.

"I am very much pleased with the Shutter, and I think the Slit is a splendid thing."—R. W. P.

"The Prints before us are marvellous specimens of clearness and sharpness, and quite sufficient proof of the makers' statement as to speed, &c."—*Hand Camera and Lantern Review*

"It works splendidly. I am very much pleased with it."—M. E

"With the Focal Plane Shutter I got a result which I never got before in the matter of rapidity and exposure combined."—A. P.

"The Focal Plane Shutter gives my customer great satisfaction."—E. B.

"The Focal Plane Shutter goes exceedingly well."—W. K.

"I am much pleased with its workmanship and smoothness of action."—C. W. W.

"The Shutter gives the most complete satisfaction, being perfectly reliable and covering such a large range of exposures. I cannot speak too highly of it."—B. T. N.

The above are bona-fide unsolicited testimonials.

THE

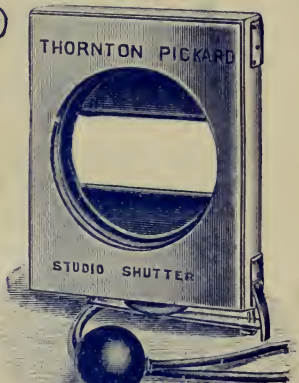
THORNTON-PICKARD

NEW

SILENT

STUDIO SHUTTER

Patent Applied for.



Price from **20 6.** *Price List, page 36.*

Exposure, from **1-8th** of a second.

Works in front or behind the Lens, or inside the Camera.

WE have much pleasure in introducing this new Shutter for Studio Work, and especially for taking children, animals, and all other subjects where silence in the working of the Shutter is a desideratum. It is also suitable for all kinds of exposures, except rapid instantaneous.

It is made on the blind principle, as will be seen from the Illustration, but unlike any other form of Thornton-Pickard Shutter, it is constructed with two separate blinds which wind on to rollers at opposite ends of the box.

In their normal position the blinds cover the aperture and overlap each other. On squeezing the pneumatic ball to make an exposure each blind instantly winds on to its roller, causing the Shutter to open from the centre as shown partly accomplished in the Illustration. On releasing the ball the blinds immediately close. In this manner any exposures may be given from 1-8th of a second to minutes or hours.

The length of exposure is controlled entirely by the length of time that the ball is squeezed. It is therefore under perfect control of the operator, so that in case the subject shows any sign of movement the Shutter can be instantly closed.

The Shutter opens noiselessly, and does not therefore attract the notice of the subject, which is of the greatest importance in the case of children, animals, &c.

It is fitted in front or behind the Lens, or inside the Camera.

When placed in front, on the Hood or Tube of the Lens, it is fitted with our Patent Rubber Moulding in the usual manner, and will work in any position, either as shown in the Illustration, or upside down, or sideways.

When placed behind the Lens it is screwed to the frontboard of Camera, the Lenses being fitted to the front panel of Shutter in the same manner as the Time and Inst. Shutter is shown attached to the Ruby Camera on page 24. In this position the Shutter is therefore almost as free from observation as if placed inside the Camera, with the advantage that the working parts are more readily accessible. For larger sizes the Shutter and Panels are made extra strong so as to carry large and heavy Lenses, see Price List.

When fitted inside the Camera it is screwed to the back of frontboard, and a hole is made in the front or side of Camera just large enough to allow the india-rubber tube to come through and make a light-tight joint. The Shutter is then entirely hidden inside the Camera except the pneumatic ball and tube by which the Shutter is operated. It raises no dust inside the Camera during working. For focussing it is necessary to squeeze the ball and press the focussing lever shown in the bottom corner of the illustration, and the Shutter will remain open for any length of time. To close it squeeze the ball again. A prolonged exposure may be given in this manner without the necessity of holding the ball in the hand all the time. A second squeeze finishes the exposure. This will be found to be a great convenience in photographing interiors, and the like.

The Pneumatic Ball is a larger size than used for our other Shutters. The best way to release the Shutter is to grasp the ball in the palm of the hand, and push the ends of several fingers into it. In this way most of the air contained in the ball is utilised.

Extra Balls and Tubes 2s, each for this Shutter.

THE THORNTON-PICKARD PNEUMATIC BALLS AND TUBES.

FIG. 15.

EVERY Thornton-Pickard Shutter (except the Hand Camera Shutter), is sent out fitted with a Pneumatic Ball and Tube, unless specially ordered without it. This consists of an India-rubber Ball, Tube, and Teat joined together perfectly air-tight.

THE rubber of which these goods are made is the best that can be obtained for the purpose, and although no rubber goods will last indefinitely, these Balls and Tubes will last a long time with ordinary care.

THE Balls and Tubes supplied by us are all specially made for our Shutters, and make the Shutters work very easily. They are much better than anything obtainable from other sources. We would caution purchasers to see that they obtain only those of our make, as there are others of very inferior quality on the market, which only result in disappointment to the user. All of our make are now marked with the words **THORNTON PICKARD** which is moulded on the ball, as shown in the Illustration.

THE Ball is joined to the Tube by an air-tight screw connection (see Fig. 15), so that should the Ball ever become deflated it can be unscrewed; the Ball will then instantly re-fill with air, and after screwing up tight again is ready for use. The end of the rubber tube overlaps the metal connection so as to be squeezed between, the two parts of the connection when screwed up therefore making its own air-tight joint.

Care of the Balls and Tubes.—The best way to preserve these in good condition is to keep them in a place that is not exposed to extreme changes of temperature (such as a cupboard or drawer for instance). The more even the temperature and the better. They should not be kept in the sun nor in a brilliant light, as the rubber is liable to oxidize sooner.

PRICES.

Ordinary Pattern, as supplied with every Thornton-Pickard Shutter except the Studio and Hand Camera Patterns, consisting of No. 0 Small Ball, 2 feet of Tubing, and Teat joined up air-tight, **1/6 each**, or post free 1/8.

For Studio Shutter, No. 1 Ball with 2 feet Tubing, &c., **2/- each.**

Large Size, to enable the photographer to release the Shutter when he is some distance from the Camera, for Self Portraiture with Groups, &c., and for Studio use. Consists of a large Ball, with Tubing of any required length, and Teat, joined up with air-tight connection.

No. 3 Ball, suitable for tubing up to 30 feet long, **2/-**
No. 4 do. do. do. over 30 feet long, **4/-**

Tubing, **5d.** *per foot. When ordering, please state length of Tubing required.*

Extra Teats 3d. each. Screw Connections, 3d. per pair (these can be used for joining two short lengths of Tubing together).

NOTE.—When ordered we supply the Long Tubing with a screw connection, so that it may be attached to the short length already on the Shutter, by simply unscrewing the Small Ball. Thus, either the long or short lengths are readily interchangeable.

THE

THORNTON-PICKARD

PATENT

RUBBER MOULDING

AND

ADAPTORS

FOR FITTING SHUTTERS TO LENSES, AND FOR ADAPTING ONE SHUTTER TO TWO OR MORE LENSES.

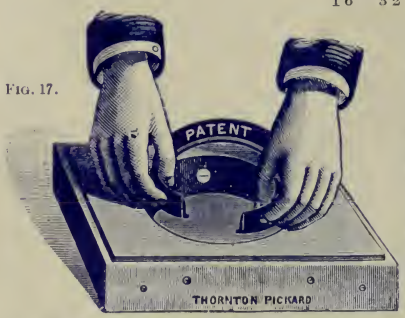
MADE IN SEVEN DIFFERENT THICKNESSES, AS SHOWN.

FIG. 16.

Price, 8d. per Foot.

№ 1	2	3	4	5	6	7
$\frac{1}{16}$″	$\frac{3}{32}$″	$\frac{1}{8}$″	$\frac{5}{32}$″	$\frac{3}{16}$″	$\frac{7}{32}$″	$\frac{1}{4}$″ thick.

FIG. 17.



FITTING.—It should be cut to the required length with a sharp knife, and sprung into the aperture with the rib or flange on the inside, as shown in the engraving.

ADJUSTMENT.—The screw in the side of Shutter will give the exact adjustment by turning with a screw-driver. An accurate fit upon the lens hood is thus insured.

Any thickness may be rubbed down on the back with a piece of sand paper when too thick, or in case of emergency a piece of cardboard may be used as packing behind the Moulding when it is not thick enough.

ADAPTORS.

When it is desired to fit two more lenses to the same Shutter a second piece of Moulding may be used inside the first one, so as to form an adaptor which can be put in or taken out as required.

Price 8d. each.

In case a very large Shutter has to be adapted to a very small lens, a Wooden Adaptor is necessary; price **1/6** up to 2½in. diameter, and **2/-** if larger.

THE

THORNTON-PICKARD

PRICE **3/6.**

Speed Indicator

FOR THE THORNTON-PICKARD SHUTTERS.

FIG. 18.

Very Simple. Does not retard the speed of the Shutter.

Shows at a glance at what speed the Shutter is Set. Prevents overwinding or running down too far.

WE strongly recommend customers to order their Shutters fitted with the Speed Indicator. It consists of a dial and pointer, as shown in the Illustration. It is fixed to the side of the Shutter. The speeds are shown on the dial in fractions of a second, and the pointer is set to the desired speed by turning the peed Knob that winds up the driving spring of the Shutter. Very careful tests have been made for each size of Shutter in order to obtain reliable marking of the Indicator Dials.

THE Indicator is fitted to any of the Shutters in this Catalogue (except the Studio Shutter, which does not require it), price **3 6** extra. No Shutter ought to be without it. When ordering please state if it is required.

SHUTTERS that have been previously purchased without the Speed Indicator can be afterwards fitted with it for **5 -** They must be sent to us for fitting.

SHUTTERS ordered without the Speed Indicator are fitted with a small ivory label, marked with three speeds, viz., the lowest, medium, and highest, as shown in the Table of Speeds below. By counting the number of turns given to the Speed Knob the speed may be ascertained from this label, and any intermediate speed can, of course, be obtained.

TO set the Shutter for the lowest speed the Speed Knob should be wound up only just sufficient to cause the blind to run down gently and to close properly. This is reckoned as "0" turns, and additional turns of the knob must be counted from this.

TABLE OF SPEEDS

OF THE **Thornton-Pickard Shutters.**

THESE approximate Speeds have been arrived at after a series of very careful tests with apparatus constructed specially for the purpose. The method used gives undeniably accurate results. This Table applies to Shutters that are not fitted with a Speed Indicator.

Speeds of the **TIME AND INSTANTANEOUS** Shutter (Standard Pattern).

Also of STEREOSCOPIC, FOREGROUND, and SNAP SHOT Shutters.

Size of Shutter, up to	1½"			2"			2½"			3"			3½"			4"		
No. of turns of Speed Knob	0	5	15	0	5	15	0	5	15	0	5	15	0	5	15	0	5	15
Speed in fractions of a Second....	1/15	1/25	1/50	1/15	1/30	1/50	1/15	1/25	1/50	1/10	1/20	1/50	1/10	1/25	1/50	1/7	1/20	1/40

The Speeds of the **EXTRA RAPID** Shutter are 1½ times the above.

Speeds of the **SPECIAL** Shutter.

Size of Shutter, up to	1½"			2"			2½"			3"			3½"			4"		
No. of turns of Speed Knob	0	5	10	0	5	10	0	5	10	0	5	10	0	5	10	0	5	10
Speed in fractions of a Second..	1/30	1/60	1/120	1/30	1/60	1/120	1/25	1/70	1/140	1/20	1/60	1/120	1/20	1/50	1/100	1/15	1/40	1/80

The **FOCAL PLANE** Shutter has a range of speed from 1/20 to 1/1000 of a second.

The **SILENT STUDIO** Shutter can be worked from about 1/8 of a second up to any desired length of time.

TENNIS.

Exposure: Two top pictures $\frac{1}{400}$ sec.; bottom one $\frac{1}{200}$ sec.
Taken by Mr. Edgar Pickard, with a

THORNTON-PICKARD FOCAL PLANE SHUTTER.

Polo.

Exposure $\frac{1}{200}$ *sec* *Taken by Mr. Edgar Pickard, with a*

THORNTON-PICKARD TIME AND INST. SHUTTER.

FOCAL PLANE

SEAGULLS.

Exposure $\frac{1}{250}$ *sec. Taken by Mr. Edgar Pickard, with a*

THORNTON-PICKARD FOCAL PLANE SHUTTER.

INTERIORS.

Exposure about 1 minute. *Taken by Mr. Edgar Pickard, with a*

THORNTON-PICKARD TIME AND INST. SHUTTER.

THE

THORNTON-PICKARD

SPECIAL

=LENSES=

FIG. 19.

THESE are of the finest quality, and have splendid definition and covering power, and are capable of performing the best work. They are supplied with either the Iris or Ordinary Diaphragms or Stops. The Iris is recommended with the Enryscope and Rapid Rectilinear Lenses, and the Revolving Diaphragm with the Wide Angle Lens.

RAPID RECTILINEAR.

THE best all-round Lens. Suitable for Instantaneous Work, Architecture, Landscape, Portrait, Copying, &c. Largest aperture, *f* 8. Made with either Waterhouse or Iris Diaphragms.

To cover plates	5 x 4	6½ x 4¼	7 x 5	8½ x 6½	10 x 8	12 x 10	15 x 12ins.
Focus about	5½in.	8½in.	9½in.	11in.	13½in.	17½in.	21in.
With "Waterhouse" Diaphragm	£1 16	£2 5	£3 0	£3 10	£5 5	£6 5	£9 0
With "Iris" Diaphragm	2 11	3 0	4 0	4 10	6 5	7 10	10 10

EXTRA RAPID RECTILINEAR.

SUITABLE for Extremely Rapid Instantaneous Work, and a good Lens for general all-round work, including Architecture, Landscape, Portrait, Copying, &c. Largest aperture, *f* 6. Nearly twice as rapid as the Rapid Rectilinear. Made with Waterhouse or Iris Diaphragms.

To cover plates	5 x 4	7 x 5	9 x 7	10 x 8ins.
Focus about	5½in.	8½in.	10½in.	13½in.
Price, with "Waterhouse" Diaphragm	£2 15	£4 0	£5 7 6	£9 0
Price, with "Iris" Diaphragm	3 10	4 15	6 7 6	10 5

The "Iris" Diaphragm fitted to these Lenses is very neat; it is contained entirely within the lens tube, and has a small projecting knob to set it by.

WIDE ANGLE RECTILINEAR.

SUITABLE for Interiors, Architecture, Landscape, Copying, and any views in confined situations. Largest aperture, *f* 11. Made with revolving diaphragms.

To cover plates	5 x 4	6½ x 4¼	8½ x 6½	12 x 10	15 x 12ins.
Focus about	3½in.	5½in.	7in.	9in.	10½in.
	£1 16	£2 5	£3 10	£4 7 6	£4 14 6

ALL the above Lenses may be used as Single Lenses of longer focus by unscrewing either the front or back combination. It is preferable to use the back one; thus a Lens of about double the length of focus is obtained, which is very suitable for distant objects, such as hills, &c., which sometimes look very diminutive when taken with the ordinary Lens. Thus a W.A. of 5in. focus, and a R.R. of 7½in. focus, gives practically four lenses of 5in., 7½in., 10in., and 15in. focus respectively. These would be sufficient to embrace all kinds of subjects on a half-plate (6½ by 4¼in.)

PORTRAIT.

RECOMMENDED for Instantaneous Work requiring *Extremely* Rapid Exposures, say from 1-500th to 1-1000th of a second. These Lenses are larger and more bulky than the Enryscope or Rapid Rectilinear, but work with a larger aperture than any other form (about *f* 4).

CABINET SIZE, with an aperture of *f* 4, covers about 6in x 5in. Focus about 9½in. **Price, £8. 15s.**

WHOLE PLATE SIZE, with an aperture of *f* 4, covers about 8½in. x 6½in. Focus about 16in. **Price, £21.**

Continued Lens and Shutter (for Hand Cameras, &c.) page 8.

TESTIMONIALS.

"I tried the Lens. It is very good value for the money, and as good as some I have seen at double the price."—J. P

"I am very pleased with the Lens, indeed."—E. H. B

"Our customer who had the Lens a short time ago is very pleased with it."—C. G. & Son.

"I have tested the Lenses and find them both first class."—T. E

THE THORNTON-PICKARD Camera,

"RUBY" Pattern.

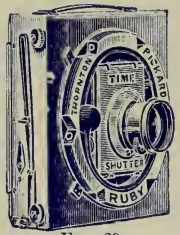


FIG. 20.

Special Features.

The "RUBY" Pattern Camera is fitted with Turntable.

It has a Folding Front with an unlimited amount of Rise and Fall.

Has Double Pinion, so that it can be racked from longest to shortest focus.

The Back can be pushed up to the Front, for use with Wide Angle Lenses.

It has Vertical and Horizontal Swings.

The Shutter is attached to and forms a part of the Camera, and folds up with it.

The Half-plate size is wide enough to take a pair of ordinary Stereoscopic Lenses.

The workmanship is perfection, and unsurpassed in any other Camera.

IN designing this Camera our aim has been to produce an instrument at a reasonable price, having all the movements and advantages of the best high-class Cameras with others that are distinctly its own. Perfect in every movement, the "Ruby" Camera has many striking advantages, which are mentioned in detail in the following pages.

[*Continued on next page.*

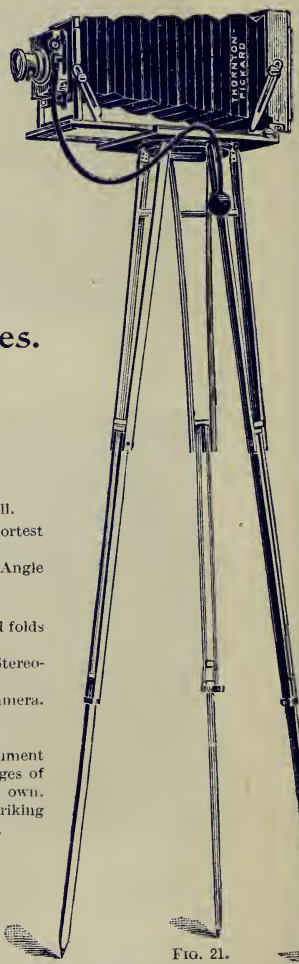


FIG. 21.

The Thornton-Pickard Camera, "Ruby" Pattern—*(continued).*

The Shutter is attached to the Camera Front, and the Turntable forms a part of the Baseboard, so that they are always in position ready for work. The Shutter folds up with the Camera, packing into the aperture in the Turntable (see Fig. 20). The lens is mounted on a panel that fits into the front of the Shutter. It may, if desired, remain in position, and fold up with the Camera.

The Turntable is shown in Fig. 20. This forms part of the Camera, and the legs are quickly attached to it, as shown in Fig. 21. This arrangement is infinitely superior to the old-fashioned loose triangle, as there is no chance of leaving it behind, and so rendering the Camera useless when away from home. The centre of the Turntable is cut away, so that the Lens and Shutter fold up with the Camera, as shown in Fig. 20. There is no need to detach them each time it is folded. The large size of the Turntable insures a very rigid base for the Camera. The Camera can be quickly revolved upon the Turntable in either direction, and is clamped firmly in position by a winged nut, which will be found on the right-hand side of the Camera Baseboard, in a most convenient position.

The Folding Front of the Camera is very simple. It can be quickly erected, and is rigid and firm when in position. Fig. 22. shows how to fix it. After opening the Camera place the Front in the position shown, leaning backwards, so that the segment plates at the bottom of the Front are over the pivots marked P. Press the Front down between the pivots, and then place it in the vertical position, as shown in the other Illustrations. Fasten in position by turning the winged clamping screws marked W. The Front is fitted with a removable Lens-Panel, which is of sufficient size to take large lenses. All Clamping Screws have flat or winged heads, which are much more convenient to use than the old form of round milled head.

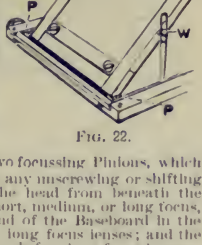


Fig. 22.

The Bellows, especially in the Half-plate Size, are made very wide at the front, and taper only slightly.

The Front Panel of the Half-plate Camera is 4¾in. wide, which, together with the wide bellows, allows for a pair of ordinary Stereoscopic Lenses.

Double Pinion for focussing. The Camera is fitted with two focussing Pinions, which enable it to be racked from the shortest to the longest focus without any unscrewing or shifting of the Frontboard, as shown in Fig. 23, and without removing the head from beneath the focussing cloth. This is a great advantage, as any lens, whether short, medium, or long focus, can be focussed without delay. The Pinion shown at the front end of the Baseboard in the Illustration racks the Front of the Camera outwards for medium or long focus lenses; and the other at the back end of the Baseboard, racks the Camera Front inwards for short focus lenses.

The Shutter is the Thornton-Pickard Time and Instantaneous (Standard Pattern), described on pages 5 and 6. It allows any kind of exposure to be given, from rapid Instantaneous to the most prolonged Time (even such as would be given to an Interior) without need of a lens cap. It is attached to the Camera Front, and works behind the lens, forming practically an Inside Shutter. It is fitted with a detachable Panel, to which the lens flange is attached. Additional Panels can be supplied for other lenses, so that various lenses may be used with the same Shutter, and changed in a moment at will. The Shutter is always in position ready for use, but can be removed bodily from the Camera, if desired, by simply lifting the Front Panel, to which it is attached, out of the Front. Cap exposures can be made without removing the Shutter, if desired, by first setting it full open as for focussing. For *extremely* rapid Instantaneous work we recommend the Focal Plane Shutter (see pages 12, 13, and 14), in *addition* to the Time and Inst. one. One Shutter does not in any way interfere with the other.

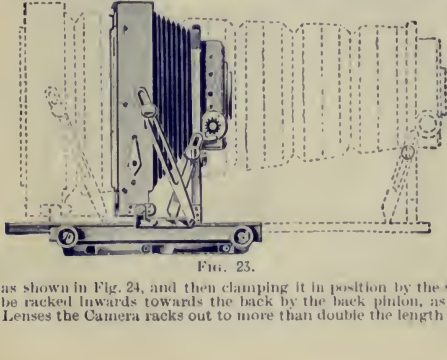


Fig. 23.

Wide Angle Lenses may be used with this Camera without danger of the Baseboard cutting off part of the picture. This is done by pushing the back of the Camera nearer to the front, as shown in Fig. 24, and then clamping it in position by the screw at the side; or the front may be racked inwards towards the back by the back pinion, as shown in Fig. 25. For long focus Lenses the Camera racks out to more than double the length of plate. See Fig. 23.

[*Continued on following pages.*

The Thornton-Pickard Camera, "Ruby" Pattern *(continued).*

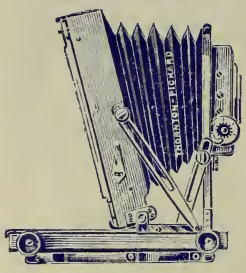


FIG. 24.

Rising and Falling Front. The range obtainable is perhaps greater in the "Ruby" Camera than in any other. It works independently of the other movements, and can, therefore, be altered after focussing if desired. The Frontboard works in grooves in the Fork, and is fixed at any height by two clamping screws at the bottom of the Frontboard. When the top of the Frontboard is level with the top of the Fork, the lens is opposite the centre of the plate.

As a rule it is much the best to have the lens a little above the centre of the plate; otherwise, in nine cases out of ten, where there are any buildings in the picture, there will be too much foreground, or else the Camera will have been tilted upwards to avoid the foreground, and then the vertical lines will not be parallel. In Fig. 25 the front is shown raised considerably above its central position, which is only necessary in extreme cases.

A CORRESPONDING amount of Fall may be obtained, so as to bring the lens below the centre of the plate, which is very useful and necessary when taking photographs from a window or elevated situation.

All Swinging Movements. These are complete, every necessary movement being obtainable.

VERTICAL SWING.—The Back may be swung backwards or forwards, and clamped by the set screw at each side (see Fig. 24). The Front may be swung and clamped in a similar manner. To ascertain whether the Back or Front are exactly at right angles with the Baseboard, slightly press the fingers upon the slotted stays before tightening up the screws. This will cause the screws to enter the notches cut in the stays; this indicates that the parts are at right angles to each other.

HORIZONTAL OR SIDE SWING is obtained by loosening the clamping screw that secures the Back at any position on the Baseboard. One side may then be placed nearer to the lens than the other, after which the screw should be tightened up again. This movement is sometimes of great advantage to get objects in sharp focus that are nearer to the Camera at one side than the other.

IT should be remembered that distant objects and very close objects cannot be both got into sharp focus in the same plane easily without swinging some part of the Camera to a suitable angle. The Back of the Camera is the most convenient to swing, and upon these facts depend the advantages of a Vertical and Horizontal Swing Back.

Plumb Indicator. For subjects having straight vertical lines, such as buildings, &c., whatever the position of the Camera (whether tilted up or down), the Back (and therefore the sensitive plate) *must hang plumb.* If it does not, the vertical lines will converge instead of being parallel. By swinging the Back until the point of the Plumb Indicator (shown in Figs. 24 and 25) coincides with the pin or stud on the side of the Camera, and then tightening the set screws, the Back will be plumb.

FIG. 25.

[*Continued on following pages.*

The Thornton-Pickard Camera, "Ruby" Pattern—*(continued).*

The Reversible Back or frame to which the Focussing Screen is attached, and into which the Dark Slides fit, can be placed either way up for horizontal or vertical pictures. It is instantly locked when placed in position by a couple of spring snaps. The Reversible Back can also be used either way up, so that if the Shutter of the Slide cannot be drawn out, owing to the Camera being close to a wall say, as is often the case when taking interiors, the Back can be turned upside down so that the Shutter of the Slide can be drawn out at the opposite side of the Camera.

The Dark Slides are of the best finished workmanship, and have hinged folding Shutters, which may be folded back under the Focussing Screen, so as not to catch the wind during exposure. They are fitted with Improved Spring Snaps, which securely fasten the Shutters when pushed in. The Slides simply drop into position at the back of the Camera, and are held securely by two catches. There is no sliding movement, and therefore no chance of accidentally shifting the Camera after fixing it in position by pushing the Slide sideways. Additional Dark Slides can always be supplied to fit by mentioning size of Camera. The Slides are perfectly light-tight, and are therefore suitable for the most sensitive plate. This is due to the careful workmanship, to the special form of velvet packing placed under the Shutter, and to the Snap being on the OUTSIDE instead of recessed into the Shutter. They are book form, and hold two plates each, which are separated by a hinged division that cannot be misplaced or lost in the dark room.

FIG. 26.

They are fitted with the Patent Dark Slide Recorder, as shown in Fig. 26. This is a great acquisition, as it shows at a glance which plate has been exposed, and prevents mistakes such as taking two pictures on one plate. It is described in detail on page 34.

The "Ruby" Camera can either be supplied with the Dark Slides as above, or with our new

Patent Plate Holder. This is very simple, light, and efficient. It is not made book form, but solid, the plates being inserted by drawing the Shutters on either side and pulling back the Spring-Bar at one end of the Holder. The plate can then be dropped into place and is held securely by the spring-bar. The Shutters pull right out, being perfectly light-tight on account of the spring cut-off under each Shutter which closes the groove when Shutter is withdrawn. These Plate Holders are lighter than Dark Slides and therefore effect considerable saving in weight, in addition to saving in cost. They are strongly recommended. A full description and illustrations will be found on pages 32 and 33.

The Dark Slides and Plate Holders are equally suitable for plates or films.

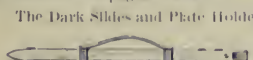


FIG. 27. STAND CLOSED.

Our Patent Automatic Tripod Stand is supplied with the Camera and fits the Turntable. It is the simplest and most convenient Stand made. The joints of the Stand rigidly lock themselves when they are opened out. The top and bottom joints are shown in Figs. 28 and 29. Each leg is made with three sections, the bottom one of which slides so that the length may be adjusted when required for uneven ground, and clamped by a set screw. The Stand opens out to a height of 4ft. 7in., and closes up to 22 inches in length for convenience in carrying (see Fig. 27). This Stand is described in greater detail on page 29.

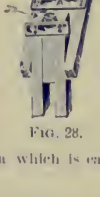


FIG. 28.

FIG. 29.

The Focussing Screen is made of the finest Ground Glass, and is marked with the sizes of smaller plates. This is a great convenience when using smaller plates than the full size of Camera which is easily done by means of Carriers that fit inside the Slides or Plate Holders.

To Set up the Camera open the legs and attach to the turntable. Turn up the Camera Body or Back, and clamp vertically by the set screws. Lift up the Front, fix and clamp, as above described.

To FOLD THE CAMERA the movements are reversed.

(Continued on next page.

The Thornton-Pickard Camera, "Ruby" Pattern –(*continued*).

For Stereoscopic Work, both the Half-plate and 7½in. x 5in. sizes are suitable. The Half-plate takes a pair of lenses of 1¾in. diameter at 3in. centres, and the 7½in. x 5in. size takes larger lenses at wider centres. A DETACHABLE STEREOSCOPIC DIVISION, made like a spring blind, is fitted so that either one lens for full-sized pictures or a pair of Stereoscopic lenses may be used at will.

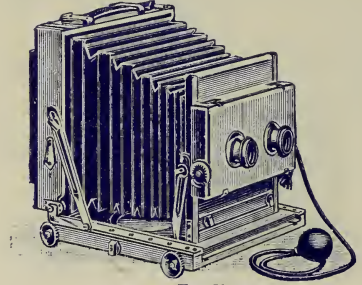


FIG. 30.

A STEREOSCOPIC Behind-Lens Time and Inst. Shutter is recommended. This is permanently fixed to the Front Panel, and the pair of lenses are mounted on a panel that fits into the front of the Shutter. This panel is removable, and another panel with the lens mounted in the centre can be quickly substituted for taking full-sized pictures. To fold the Camera, the Front-board Carrying Shutter and Lenses can be instantly removed and as quickly replaced.

THE "RUBY" CAMERA has **every necessary movement.** It is the **simplest** and the **best** all-round Camera made, and is suitable **for all kinds of work,** amongst which we may mention the following: Travelling and Touring; Architectural Works; Home Portraiture; Copying Photos, Engravings, &c.; Making Lantern Slides from negatives of larger or smaller sizes, Enlarging or Reducing, &c., &c.

The Photographs reproduced in this Catalogue were taken with the Thornton-Pickard Apparatus.

The "Ruby" Camera is remarkably compact and light. Note the following particulars:—

SIZE when folded, including all projections, Turntable and Shutter, Half plate 9 x 8¼ x 3in. Whole plate 11¼ x 10½ x 3¾in.

WEIGHT, including Turntable and Shutter, Half plate about 3⅜lbs.; Whole plate about 5¼lbs. With Aluminium fittings, Half plate about 3lbs.; Whole plate about 4½lbs.

LONGEST FOCUS, with Shutter, Half plate 16in.; Whole plate 19½in. **Price List,** page 38.

TESTIMONIALS.

"I have much pleasure in stating that I have used the Ruby Camera for some two years, and have found it a particularly convenient form, in fact the general finish is really excellent, and to my mind is as good and reliable an instrument as one could wish to possess."—S. P.

"My customer is very pleased with Camera, and I hope shortly to send you further orders."—W. R. S.

"I am greatly pleased with it in every way, it seems to be excellent."—H. C. J.

"Your Camera has been much admired. I like it very much."—C. W. R.

"I am much pleased with it. Every little detail seems to have been well wrought out, and the workmanship is excellent. I trust that I may have the pleasure of sending many orders for similar ones."—S. J.

"I am very much pleased with it, so much so that I am showing it at the Camera Club here at our next meeting, and have also got you a customer for one."—F. H. H.

"We are glad to say our customer was delighted with the Ruby Camera, it is certainly a gem."—W. H.

"Camera is a splendid instrument, the dark slides are pieces of exquisite workmanship."—W. J. W.

"I am very pleased with the intelligent contrivance shown in every part of it, every movement is well studied and carried out."—L. P.

"The Camera is extremely satisfactory and fully capable of dealing with any subject which could possibly arise. The Permanent Shutter is a great acquisition."—V. D.

"The Camera gives every satisfaction."—J. W. & Co., South Africa.

"The Camera is noted for its beautiful finish and lightness."—*Exeter Evening Post.*

"I have found the Ruby Camera perfect in every way."—J. C.

"I find it quite up to my expectations; everything has given me satisfaction."—H. R. K.

"The Ruby Camera gives me great satisfaction."—R. T.

"The Ruby is a beautiful compact instrument."—*Hand Camera and Lantern Review.*

"A very fine instrument indeed, and the power of keeping the Shutter fixed ready is a great convenience. The Camera is also very light and compact."—*Amateur Photographer.*

THE

THORNTON-PICKARD

PATENT

AUTOMATIC

CAMERA STAND.

AUTOMATICALLY-LOCKING JOINTS;
SIMPLE AND EFFICIENT.
LIGHT. COMPACT. RIGID.

Prices: For Half-plate and Whole-plate Cameras **17 6**
For 10 x 8 and 12 x 10 Cameras **22 6**

The Patent Automatic Lock Joints can be fitted to any of the Thornton-Pickard Ruby Stands previously supplied, at a cost of **5** *- per Stand.*

The weight of Half-plate Stand is about 3lbs.
" " " 10 x 8 " " 4lbs.

Length—opened out, for use, 4ft. 7in.; folded up for travelling, 22in.

Small Size, for Hand Cameras, &c., 3ft. 7in. high when open, 18in. long when closed, same price.

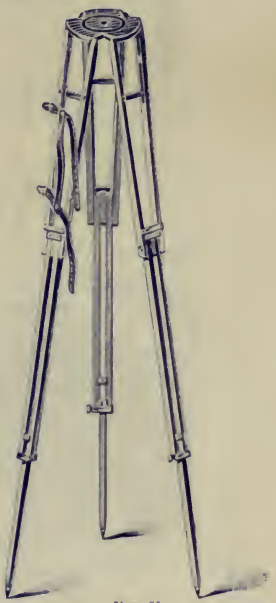


FIG. 31.

THIS is the simplest and most convenient Stand yet made. It is quickly erected; each leg is simply opened to its extreme limit, when the joints instantly and automatically lock themselves. There are no buttons that can be accidentally turned and allow the Stand and Camera to collapse.

The Stand is made of the best English Ash, and is in three sections, the bottom one of which is adjustable for uneven ground, &c., and is fitted with a screw to clamp it at any height required.

On pulling out this section as far as possible, the spring bolt marked by the arrow in the engraving springs out and instantly locks the joint. To close again, the spring bolt is pressed with the thumb, which allows the section to slide back again. A thumb screw is provided at this joint, so that the section may be adjusted to any height, as above mentioned, and may be used in addition to the spring bolt, to give extra rigidity if desired.

The upper joint is locked on exactly the same principle, but it folds instead of slides; the spring bolt is larger and stronger and snaps into position, behind the plate A, as soon as the upper section is unfolded. The two sections are therefore wedged together in a very practical manner, and the utmost rigidity is secured.

This Automatic Lock is much superior to the usual form of button or screw fastener, as it entirely prevents any danger of the Stand collapsing, and is instantaneous in its action when being erected.

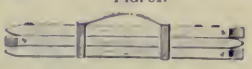


FIG. 32. STAND CLOSED.

The form of tripod top should be noticed; this is as small as is consistent with rigidity, measuring across 5 inches, and is made of mahogany, French-polished both on the top and bottom; and has a ring of velvet let in the top, so as not to scratch the Camera baseboard.

It has no projecting studs or sharp corners liable to scratch other parts of the Camera when packed in the bag.

Handle straps are provided for convenience in carrying.

In packing up the three legs before strapping, the middle one should be placed the reverse way from the outside ones; they will then lit close together and form a compact package.

FIG. 33.

FIG. 34.

TESTIMONIALS.

"The Stand is a marvel of ingenuity and compactness."—L. J.

"We think the Stand is the best and neatest we have seen, and is cheap." F. O. H.

THE

THORNTON-PICKARD

PATENT

HAND CAMERA

Can be used either as a Hand or Stand Camera.

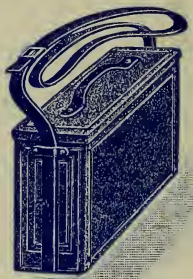


FIG. 35.—Camera Closed.

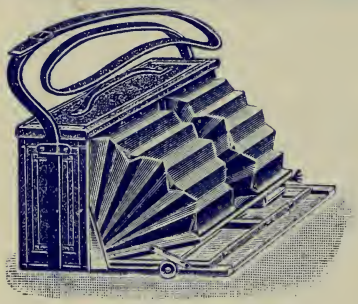


FIG. 36.—Camera partly open.

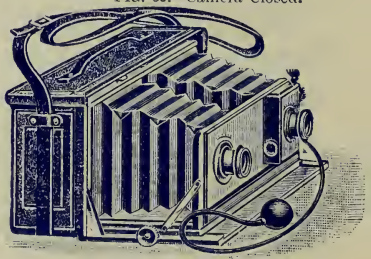


FIG. 37.—Camera open, ready for use.

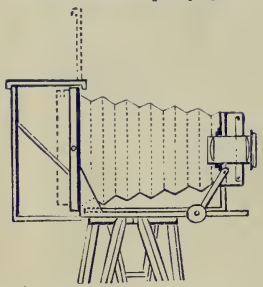


FIG. 38.—Showing Camera on a Stand, Plate Holder in position, and the Mirror in the position that it occupies when taking vertical pictures.

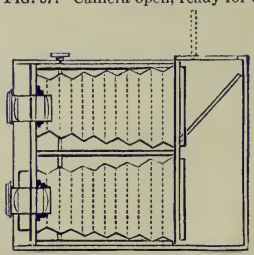


FIG. 39.—Showing the Camera in position it occupies when taking horizontal pictures. The top portion is the Finder and Focussing Camera, the picture being seen through the open lid on the inclined mirror. The bottom is the Exposing Camera, in which the Plate Holder is inserted.

The Thornton-Pickard Hand Camera.

CONSTRUCTED on the folding principle, and suitable for hand or stand work. Fitted with Extra Rapid *f*5·6 Twin Lenses, of finest English manufacture, the best for the purpose that we know of. Takes ¼-plate pictures and stereoscopic.

The fittings and lens mounts are of aluminium, to obtain the utmost lightness.

The Thornton-Pickard Time and Inst. Shutter is fitted between the combinations of the Lens, to obtain compactness.

The Shutter is self-capping, that is to say, it does not open at the time of setting. Both Lenses are fitted with Iris Diaphragms. The photograph is taken with one Lens, while the focussing is done with the other.

The full-sized picture is seen in a mirror, which is fixed behind the ground glass of the finder Lens. The picture is always seen right way up, both when taking vertical and horizontal pictures.

The front has both rise and fall and horizontal motion. When open, the Camera is like an ordinary Camera. To close it, the front folds on to the baseboard, and the whole camera folds into the case like a fan.

Plates, cut films, or rollable films may be used.

For Plates or cut films our Plate-Holders, with patent spring bar, are supplied. These Plate-Holders are fitted with Recorders and improved Spring Catches.

Focal Plane Shutter is fitted for high-speed photography when required. Extra light Automatic Stand recommended. Handle for carrying and Shoulder Strap attached to the case. Case covered in black leather. Inside best French-polished mahogany.

This Camera, which we have pleasure in placing upon the market, has been designed after the most careful study and consideration of the requirements of a perfect Camera for every class of work, and one that can be used both in the hand or upon a stand. No pains or expense have been spared to produce the most complete all-round Camera extant.

From the illustrations it will be seen that it is constructed on an entirely new and original plan, which permits of numerous advantages not possessed by any other Camera.

When closed the Camera is very compact and of an elegant oblong shape, being most convenient to carry.

The front of the case folds down to form the baseboard. At the same time the Camera front folds down with it, and the back of the Camera draws forward into the position shown in Fig. 37, and is automatically locked rigidly into position. The front is then lifted up and snaps into position. If the Shutter has been previously set, it is then ready for making the exposure.

Two forms of this Camera are made.

A Shape. The most compact is that shown in the illustrations. This, when closed, holds one slide.

A set of six or twelve of our Patent Plate-Holders (for plates or cut films) is recommended, which are carried in a separate case exactly the same length and height as the Camera.

B Shape takes 5 Plate-Holders, or an Eastman Roll-Holder and two Plate-Holders when closed, and is 1½ inches thicker than the sizes below, the height and length being the same. This size also takes a Focal Plane Shutter and three Plate-Holders.

Either of the above forms are suitable for Stereoscopic work, the pictures being taken on separate ¼ plates. Both Lenses being in use, a focussing scale is used, and a small Brilliant Finder; also, one or both of the pictures may be focussed on to the ground glass by aid of the mirror.

A Stereo. Shutter is fitted in place of the single Shutter, and is arranged so that the Shutter Blind of the focussing Lens slides into position when required for Stereo. work, or is moved away when required for ¼ plate, so that the finder is left unobstructed.

Camera, **A** shape as illustrated, measuring only 9⅜ x 6¾ x 3⅝ inches.

PRICES.

A Shape, ¼-Plate Size (4¼" x 3¼").

Hand Camera, including Twin Lenses, with Iris Diaphragms; Thornton-Pickard Time and Inst. Shutter with Speed Indicator, and fitted between the Combinations of the Lens; and full Aluminium Fittings	£17	10	0
Set of Six Plate-Holders (for 12 plates)	2	2	0
Leather Case to hold the Six Plate-Holders	0	10	0
Automatic Stand; special Small Size	0	17	6

B Shape, ¼-Plate Size (4¼" x 3¼").

Hand Camera, including Twin Lenses with Iris Diaphragms; Thornton Pickard Time and Inst. Shutter with Speed Indicator, and fitted between the Combinations of the Lens; and full Aluminium Fittings; but made large enough to take Five Plate-Holders, or a Roll-Holder and Two Plate-Holders	£18	0	0
Eastman Roll-Holder, for 48 Exposures	2	5	0
Thornton-Pickard Focal Plane Shutter, with Speed Indicator	1	18	6
Plate-Holders, each	0	7	0
Either Shape, **A** or **B**, arranged for Stereoscopic work as well as for Ordinary pictures, including Thornton-Pickard Stereoscopic Time and Inst. Shutter, with Sliding Blind, and with Brilliant Finder and a Focussing Scale. Extra	2	10	0

THE THORNTON-PICKARD PATENT PLATE HOLDER

With Patent Spring Bar.

PRICE. from 7/- each.
See opposite page for prices of all sizes.

ADVANTAGES.

Gives everybody satisfaction

A great success. .

The most perfect slide ever introduced.

Nothing like it previously.

Better than the ordinary form, and cheaper.

Plates changed in half the time, and in the dark.

Lighter and more light proof.

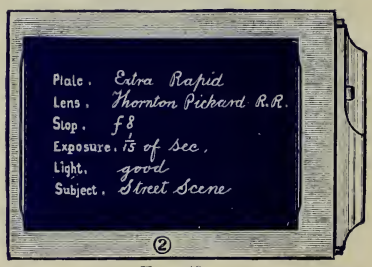


FIG. 40.

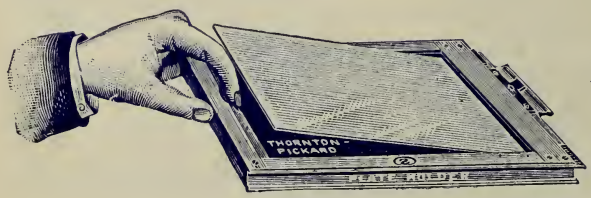


FIG. 41.

Of best workmanship, and well-finished.

[*Continued on next page.*

The Thornton-Pickard Plate Holder—*(continued).*

DESCRIPTION.

THE important feature about this Plate Holder, which is both different and far superior to any other previously introduced, is the automatic Spring Bar, which allows of the plate being instantly put in or taken out by simply pressing with the finger. At the same time it securely holds the plate in position so that it cannot possibly fall out, however much the Holder may be shaken about.

This Plate Holder is of very simple construction, and carries two plates. It is very much lighter than the ordinary book form of Slide, and being made with a solid frame there is no liability to warp. It is perfectly light-tight and safe for the most sensitive plates, and is the most convenient and successful form of Dark Slide yet invented. Altogether superior to every kind of solid slide.

The Shutters are very light and pull right out, the aperture being closed automatically by a spring cut-off that prevents access of light. They are fitted with an improved form of Spring Snap or Catch, which prevents the Shutter from being drawn accidentally, and also with our patent Recorders that show at a glance which plates have been exposed—adding greatly to their efficiency.

The Shutters are made of opaque black material of special make, and are printed as shown in Fig. 40, so that particulars of the exposure, &c., may be filled in the blank spaces with a lead pencil (which easily rubs off when required). The brand of plate used should be filled in at the time it is put into the Plate Holder. The other items are filled in when taking the photograph, which saves the trouble of entering into a note book. These particulars are very convenient at the time of development, and may be copied into a note book as usual at any convenient time.

The Plate Holder is suitable for use with SMALLER PLATES by using Plate Carriers, and also for CUT FILMS by using Film Carriers. Prices of both kinds of Carriers will be found on page 38.

The Plate Holder can be supplied to fit almost any Camera without alteration to the latter, and does not require an adaptor or other clumsy contrivance, but fits into the same grooves as the original slides belonging to the Camera.

The Plate Holder is beautifully made of mahogany and French polished, and is therefore suitable for use with the most expensive or highly-finished Cameras.

INSTRUCTIONS FOR USE.

To Insert a Plate in the Holder, pull one of the Shutters right out (or nearly so). Then, taking hold of the plate in the left hand, push the plate under the rabate at the top end of the Plate Holder, and pull back the Spring Bar with the forefinger of the right hand. The plate will now be in the position shown in Fig. 41, resting upon a spring which is not shown in the Engraving. Now with the left hand press the plate down into position, then the Spring Bar is allowed to spring forward and instantly locks the plate firmly.

To take the Plate Out, it is only necessary to pull back the Spring Bar with the forefinger, as above described; the plate is at once lifted up by the spring underneath to the position shown in Fig. 1, and it can therefore be taken out with the other hand.

There is an opaque division inside the Holder which divides the two plates and carries on each side one of the above-mentioned springs. These springs serve the double purpose of keeping the plates close up to correct focus, and lifting them out when required.

Whether the Holder is being loaded or unloaded it is best to place it flat upon a table. The Shutter is drawn, the Plate inserted, and the Shutter pushed in, without moving the Holder. This is infinitely more convenient than the various operations that are necessary with a book form of Slide.

When the Shutter is drawn out ready for exposure, instead of holding in the hand or placing on the top of the Camera, it may be hung on to the back of the Plate Holder by means of the hooked end of the Spring Snap, there being a groove into which the hook lits. When the Plate Holder is placed horizontally the groove at the top edge is used, and when vertically the groove in the top of the other shutter. This arrangement is a great convenience.

TESTIMONIALS.

"I am more than pleased with the Plate Holders, they are simply perfection."—T. M. B.

"The Plate Holders work very nicely."—E. E. B.

"They are first class. I am much pleased with them, and my client delighted."—E. M.

"I like the Plate Holder immensely. It is wonderfully clever."—W. S. B.

"I am well satisfied with its finish, and consider it the best of its kind in the market."—P. B.

"The Plate Holders I had from you a short time ago are most satisfactory in every way, and much more convenient to use than the book pattern."—E. W.

"I am very pleased indeed with the Plate Holders, as they are convenient in every way, and I am recommending them to many of my friends."—G. B.

PRICES.

Each Plate Holder takes two plates or two cut films in Carriers.

Size in inches	4¼ x 3¼	5 x 4	6½ x 4¼	6½ x 3¼	7½ x 5	8½ x 6½	10 x 8	12 x 10in.
Price each.....	7 -	8 -	9 -	11 -	12 -	15 -	21 -	27 6

Intermediate sizes same price as the next size larger. Special and Continental sizes made to order. When ordering please state what numbers are to be put on the Plate Holder. Two Ivory numbers are fitted into each Holder.

If required for a Thornton-Pickard Camera it is not necessary to send a slide as a pattern, and in that case no charge is made for fitting. For other Cameras a slide is required, or better still, the reversing back, and a small charge is made, according to time taken.

THE

THORNTON-PICKARD

PATENT

RECORDER

For Dark Slides or Plate Holders.

Price of Recorder,
SIXPENCE Each.
Fitting to Slide, **3d.** extra.

One Recorder is required for each plate—that is, two for a Double Slide or one for a Single Slide.

NOTE.—*The Recorder is fitted to all Dark Slides and Plate Holders of our manufacture without extra charge.*

Shows at a glance which Plates have been exposed. Prevents two Pictures being taken on one Plate.

BEFORE EXPOSURE
FIG. 42.

AFTER EXPOSURE
FIG. 43.

THIS simple little device is a great success and gives everybody satisfaction; it ought to be fitted to every Dark Slide and Plate Holder. It records automatically which plates have been exposed and which have not.

THE Recorder is fitted at the top of the Slide (as shown in Fig. 44) and can therefore be seen without taking the Slides out of the carrying case or bag. It lies down flat before exposure (see Fig. 42), but flies up and stands upon edge after exposure (as in Fig. 43); so that it can be seen at a glance which plates have been exposed and which have not. At the same time it does not lock the Shutter of the Slide, and if this has been drawn, and the plate has not been used, the Shutter can be pushed back again and drawn a second time when required.

THIS simple device prevents the danger of taking two pictures on one plate. It saves a world of trouble, and is an infallible substitute for the memory.

THE Recorder consists of a small hinged plate or lid, which lies down flat before exposure. It is fitted at the top of the Slide, as above stated, and in such a position that the handle or projecting part of the Shutter holds it down. As soon as the Shutter of the Slide is withdrawn to expose the plate, the lid flies open by means of a steel spring, which at the same time forms the hinge of the Recorder, and discloses the word "EXPOSED," remaining in this position until the Slide is again charged with a fresh plate in the dark room. The Recorder may be set ready for the next exposure by simply closing down the lid with the forefinger, at the same time closing the Shutter of the Dark Slide.

FIG. 44.

THE Recorder is easily fitted to Slides, but we prefer to do this where possible. Slides may be sent to us direct or through any dealer. As a rule they can generally be returned fitted the next day. A convenient way to send them is by parcel post. The weight of a parcel containing three ½-plate Slides is about 2½lbs., which costs 6d.

TESTIMONIALS.

"I can't tell you how valuable I have found your little Dark Slide Recorder to be. Many a time they have saved me from exposing a plate twice over. I would not be without them at any cost."—E. H.

"Your Recorder is an excellent one; most simple and most effective."—W. L.

"I am very pleased with the Dark Slide Recorders, which I have found invaluable, when exposing many plates in one day."—M. C.

"The Dark Slide Recorder is a very simple and useful indicator. It does not lock the Shutter after an exposure, but it shows that the slide has been withdrawn."—*Photography.*

THE

THORNTON-PICKARD

PATENT

PLUMB INDICATOR

FOR ATTACHING TO CAMERA. CANNOT GET LOST.
NO SKILL REQUIRED TO FIX.

Price SIXPENCE Each.

(Post free, Sevenpence.)

Also supplied to dealers on Show Cards containing one dozen.

WHEN photographing any subject in which there are vertical lines, such as buildings, &c., it is **absolutely necessary** that the sensitive plate should **hang plumb,** or the vertical lines will not be parallel in the resulting photograph. It is difficult to judge when the plate does hang plumb without either a spirit level or a **Plumb Indicator.** The latter is by far the **simplest** and the **best** device. It is permanently screwed to the Swing Back of the Camera, and **cannot get lost.** It shows at a glance, with certainty, when the Camera Back and Sensitive Plate are true and plumb.

FIG. 45.

AS shown full size in Fig. 45, it consists of a swinging pointer attached to a plate that can be screwed permanently to the Swing Back of the Camera. It is very sensitive in its action, immediately showing at a glance the slightest deviation from the perpendicular.

WHEN photographing buildings, &c., in confined situations, it is often necessary to incline the Camera upwards (as shown in Fig. 46) in order to get the more elevated part of the subject upon the sensitive plate, which brings the back of the Camera (and consequently the plate) to the position shown by dotted lines **B**. If the plate is exposed in this position the vertical lines of the buildings will not be parallel in the resulting photograph; the effect will be what is generally termed "drunken architecture"—everything will look askew. If, however, the Swing Back of the Camera is placed in the position **A** (see Fig. 46) with the Indicator exactly plumb, the photograph will be correct, and there will be no diverging or converging vertical lines in it.

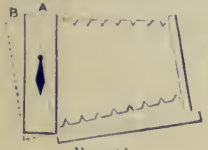


FIG. 46.

Fitting to Camera.

DECIDE upon a position on one side of the Camera that does not interfere with the brass plates or stretchers. Place one edge of the black plate carrying the swinging Plumb exactly parallel with the straight edge of the Camera, and screw down tight with the screws supplied.

Sent out complete with screws ready for fixing.

PRICE LIST OF THE Thornton-Pickard Shutters.

Page In Catalogue.		To fit on Lens Hood or Tube up to Inches diameter.	1½in.	1⅝in.	2in.	2½in.	3in.	3½in.	4in.	4½in.	5in.
4	**TIME & INSTANTANEOUS**	STANDARD PATTERN.	18/6	18/6	20/6	23/6	27/6	32/6	37/6	42/6	47/6
6		BEHIND LENS	21/-	21/-	23/-	26/-	31/-	36/-	41/-	46/-	51/-
7	Do. do.	EXTRA RAPID.....	—	23/6	25/6	28/6	32/6	37/6	42/6	47/6	52/6
7	Do. do.	FOREGROUND									

Speed Indicator, 3/6 extra. Larger sizes made to order.

FOR HAND CAMERAS. To fit on a Lens Hood or Tube up to Inches diameter 1½in. 1⅝in. 2in.

TIME AND INSTANTANEOUS, with Cord Release 17/6 17/6 19/6

4 and 8 Do. do. do. and Self-Capping Blind 22/6 22/6 24/6

8 Do do. do. do. and Lens combined, and Aluminium fittings, for plates 5in. x 4in., or smaller, £5. 12s. 6d. Speed Indicator, 3/6 extra.

SNAP SHOT, instead of Time and Inst. Pattern, 8/6 less.

NOTE.—These Shutters for Hand Cameras are fitted with a Cord and Button Release. Trigger or Pneumatic Ball and Tube Release, 1/- extra. The Cord is left extra long, and may be shortened after fitting to Camera.

STEREOSCOPIC. To fit on Lens Hoods or Tubes up to Inches diameter 1⅝in. 2in. 2½in.

7 TIME AND INSTANTANEOUS 26/- 28/- 31/-

7 Do. do. Behind Lens 29/6 31/6 34/6

7 Do. do. do. with Adjustable Centres (adjustment from 2¾ to 3¼ inches) .. 34/6 36/6 39/6

Speed Indicator 3/6 extra.

These prices are for Stereoscopic Shutters up to 3¼in. centres. If 3½in. centres, 2/- extra; 3⅝in. centres, 4/- extra.

		To fit on Lens Hood or Tube up to Inches diameter	1½in.	1⅝in.	2in.	2½in.	3in.	3½in.	4in.	4½in.	5in.
10	**SNAP SHOT,** for Instantaneous only		10/-	10/-	12/-	15/-	—	—	—	—	—
11	**SPECIAL,** for more Rapid Instantaneous		—	23/6	25/6	28/6	32/6	37/6	42/6	47/6	52/6

Speed Indicator 3/6 extra.

15	**SILENT STUDIO**	—	—	20/6	23/6	27/6	32/6	37/6	42/6	47/6	
15	Do. do. Behind Lens (made extra strong to carry heavy lenses)			24/-	27/-	32/6	37/6	42/6	47/6	52/6	

Extra Panels for do., see Accessories below. Larger sizes made to order.

Page in Catalogue.

FOCAL PLANE

(For exceptionally High Speed Instantaneous Work, up to $\frac{1}{1000}$ of a second. This Shutter fits into the back of the Camera, and the cost of fitting is included in price. (See Instructions for Ordering below.)

12

Inches.	ENGLISH AND AMERICAN SIZES.			CONTINENTAL SIZES.	
12	4¼ by 3¼ (quarter-pl.) .. £1 15 0	6½ by 4¾ (Half-pl.) .. £2 5 0	8½ by 6½ (whole-pl.) £3 0 0	9 by 12 centimetres ..	£1 17 6
	5 .. 4 .. .. 2 0 0	7 .. 5 .. .. 2 10 0	10 .. 8 .. .. 3 10 0	13 .. 18 .. .	2 12 6
	6½ .. 3¼ 2 5 0	7½ .. 5 .. .. 2 12 6	12 .. 10 .. .. 4 10 0	18 .. 24 .. .	3 5 0
	6½ .. 4¼ 2 5 0	8 .. 5 .. .. 2 17 6	15 .. 12 .. .. 5 10 0	24 .. 30	4 5 0

Speed Indicator 3 6 extra.

Intermediate sizes are made to order at same price as next size larger.

ACCESSORIES.

SPEED INDICATOR, price 3 6 extra. Strongly recommended with all except the Studio Shutter.

16 PNEUMATIC BALL AND TUBE, Ordinary Size. No. 0 (Ball, Tube, and Teat complete), price 1 6.
16 Do. do. No. 2, for Studio Shutter do. do. price 2 -
16 Do. do. Large Balls and Long Lengths of Tubing, see page 16.

17 PATENT RUBBER MOULDING, for fitting Shutters to Lenses, made in seven different thicknesses, 8d. per foot.

17 ADAPTORS, for fitting Shutters to more than one Lens: Rubber, 8d. each; Wooden, lined with Rubber, 1 6 up to 2¼in., 2/- if larger.

BRASSBINDING SHUTTERS, for hot and damp climates, 5 - extra up to 3in. size; larger sizes in proportion.

8 SELF-CAPPING BLIND, up to 2½in. size, price 5/-; up to 3¼in., 7 6; fitted to Time and Inst. or Snap Shot Shutters. To other patterns, from 7 6.

SKY SHADE AND FLAP, attached to any Shutter except Focal Plane; up to 2½in., 3 6; up to 3¼in., 5/-

ALUMINIUM FITTINGS to Time and Inst. Shutter, 5/- extra.

LEATHER CASE to hold Time and Inst. Shutter, up to 2in. size, 5/-; up to 3in. size, 7/6.

EXTRA PANELS for Behind Lens Shutters, Ordinary Patterns, up to 2¼in. size, 1 -; 3¼in. size, 1 6; 5in. size, 2/-
Do. do. do. Studio Pattern, up to 2¼in. size, 2/-; 3¼in. size, 3 -
Do. do. do. Stereoscopic Pattern, 2/-; with Adjustable Centres, 5/-

INSTRUCTIONS FOR ORDERING.

FOR ORDINARY SHUTTERS.—Please send a narrow strip of paper just long enough to meet round the Lens Hood or Tube, **not** *an impression or pencil drawing. Insist upon having the Shutter made a good fit upon the Lens. The Shutters work equally well fitted to the Lens Hood or the Lens Body.*
FOR STEREOSCOPIC SHUTTERS.—In addition to strip as above, please state exact distance apart of lenses from centre to centre.
FOR FOCAL PLANE SHUTTER.—This Shutter is fitted into the back of the Camera in the same way as the Reversible Back, and in fact takes the place of it. The Dark Slide or Plate Holder fits into the back of the Shutter in the usual manner.
The cost of fitting is included if the Reversible Back with Focussing Screen and a Dark Slide or Plate Holder are sent to us when ordering, otherwise we supply the Shutter with an adapting frame which may be cut down and fitted to the required size by any cabinet maker. If the Camera has no Reversible Back it is sufficient to send a Dark Slide or Plate Holder.

Address for Telegrams, Letters, and Parcels:—

"Thornton-Pickard Altrincham."

THE

Thornton-Pickard Manufacturing Company.

Railway Stations.
Distance from
BROADHEATH,
1 minute (L. & N. W. Ry.)
ALTRINCHAM,
15 mins. (M. S. J. & A. Ry.)
TIMPERLEY,
15 mins. (M. S. J. & A. Ry.)
WEST TIMPERLEY,
5 minutes (C. L. C. Ry.)

PRICE LIST of the THORNTON-PICKARD CAMERA and ACCESSORIES.

Page in Catalogue.	SIZE OF PLATE	6½in. x 4¾in. (Half-plate.)	7½in. x 5in.	8½in. x 6½in. (Whole-plate.)	10in. x 8in.	12in. x 10in.
24	* **"RUBY" PATTERN.**	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
	CAMERA, including Turntable and three Dark Slides (Double)	7 7 6	8 16 6	10 2 6	12 8 6	15 8 6
29	Automatic STAND to fit Turntable	– 17 6	– 17 6	– 17 6	1 2 6	1 2 6
6	Fitted with Time and Inst. SHUTTER, attached to Camera Front	1 0 6	1 3 6	1 3 6	1 7 6	1 12 6
18	SPEED INDICATOR, fitted to Shutter, extra	– 3 6	– 3 6	– 3 6	– 3 6	– 3 6
		9 9 0	11 1 0	12 7 0	15 2 0	18 7 0
	Aluminium Fittings, extra	3 0 0	3 5 0	3 10 0	4 0 0	5 0 0
32	If supplied with three PLATE HOLDERS (Double), which are recommended instead of three Double Dark Slides	less 18/-	less 16/6	less 15/-	less 19/6	less 15/-
	EXTRAS.					
28	Fitted with Combined Single and Stereoscopic Shutter, and with Detachable Stereoscopic Division	1 0 0	1 0 0	—	—	—
	Brassbinding, Camera, and three Slides or three Plate Holders	1 10 0	1 10 0	1 15 0	2 0 0	2 10 0
	Brassbinding, additional Slides or Plate Holders, each	– 5 0	– 6 0	– 6 0	– 7 0	– 8 0
	†WATERPROOF CASE, to hold Camera, Lens, and three Slides; Dark Tweed, Leather-Bound, with Handle, and Strap that may be used to carry on Shoulder or Knapsack fashion (if with LOCK, 2/6 extra)	– 16 0	– 18 0	1 0 0	1 3 0	1 8 0
	WATERPROOF CASE to hold Stand	– 8 0	– 8 0	– 8 0	– 9 0	– 9 0
23	Rapid Rectilinear LENS (page 24) with Iris Diaphragm	3 0 0	4 0 0	4 10 0	6 5 0	7 10 0
	Additional DARK SLIDES, Double (Book-form), fitted with Recorders and Spring Snaps, each	– 15 0	– 17 6	1 0 0	1 7 6	1 12 6
32	Additional PLATE HOLDERS, Double, fitted with Recorders and Spring Snaps (prices of Smaller Sizes, page 32), each	– 9 0	– 12 0	– 15 0	1 1 0	1 7 6
	PANELS—Front Panels (to fit the Front of Camera)	– 1 6	– 1 9	– 1 9	– 2 6	– 3 6
	Shutter Panels (to fit into the Shutter, to carry Lens Flange)	– 1 0	– 1 0	– 1 0	– 1 6	– 1 6
	CARRIERS, for using smaller size of PLATES. Each Carrier holds the plate; two can be used in a Dark Slide or Plate Holder. Charged according to the *outside* size	– 1 4	– 1 6	– 1 8	– 2 0	– 2 6
	CARRIERS, for Cut Films	– – 6	– – 10	– 1 0	– 1 4	– 1 10

HAND CAMERA prices, page 30.

* *Continental sizes of Cameras made to order.* † *Solid Leather Cases, and others of special shape, made to order.*

Langdale Pikes. At Coniston. Near Dungeon Ghyll.
Stepping Stones.

Exposure $\frac{1}{25}$ sec. each. Taken by Mr. Edgar Pickard, with a

THORNTON-PICKARD TIME AND INST. SHUTTER.

85-B9444

SONG THRUSH.

Photographed from nature at a distance of about six feet, whilst the bird was feeding its young.

Exposure $\frac{1}{200}$ *sec. Taken by Mr. Edgar Pickard, with a*

THORNTON-PICKARD FOCAL PLANE SHUTTER.

INFORMATION
Concerning the

THORNTON-PICKARD
Time and Instantaneous Shutter.

Co-Efficiency.

ONE of the greatest advantages of the Thornton-Pickard Shutter is its high co-efficiency, as the following comparison will show: If a shutter that works slowly across the lens (and of which there are many kinds) is arranged to give a certain exposure, of say one second, it will be either opening or closing during the whole of that time: that is to say, it will commence to close again as soon as it has arrived at full open, and the result is that its co-efficiency (which means the proportion of light that reaches and acts upon the plate during exposure out of the total volume that the lens is capable of passing) will be very low, not more than about 50 per cent. The exposure therefore will only be equivalent to half a second exposure. The Thornton-Pickard Shutter is, however, a most efficient one. Take for example a "Time" exposure of the same duration as in the above example, viz., one second. In this case the Shutter would open in about 1-50th of a second; remain open for 48-50ths of a second, and close in the remaining 1-50th of a second; thus its co-efficiency in that case would be 48-50ths or 96 per cent. of the whole.

This point is of the UTMOST IMPORTANCE, and should not be lost sight of when purchasing a shutter. It should be remembered that the speed at which a shutter may be worked is limited by the rate of or liability to movement in the object to be photographed. This, combined with the distance of the object from the camera, is the primary factor in all photographic exposures—especially instantaneous ones.

There is always a liability to under rather than over exposure in instantaneous work, and it is therefore *absolutely necessary*, in order to insure success, that the Shutter should utilise as large a proportion of light as possible in the limited time of exposure. If it does not do so then failure may be expected. With such a shutter there is the choice of two evils—either under exposure owing to its low efficiency, or a longer exposure, which would mean movement of the object, and consequently a blurred image.

It will be seen, therefore, that a shutter of high co-efficiency is a *sine quâ non*. Such a shutter is the Thornton-Pickard.

Setting and Releasing.

It is wound up by simply pulling a cord.

It is set for Time or Instantaneous Exposures by placing the pointer opposite the words "Time" or "Inst." and will give the same exposure until the pointer is moved.

It can be released by the pneumatic ball and tube without shaking the camera; or by trigger release; or by a cord. There is no shake in releasing.

Exposing.

By using this Shutter the object to be photographed can be observed up to the last moment, and during exposure, as the ordinary lens cap is not required. It is thus possible to expose just at the right moment, and to close the Shutter instantly should there be any movement of the subject.

The Shutter "takes instantly the ball is squeezed."

It is perfectly light-tight, and the plate may therefore remain uncovered, with the Shutter set, up to the moment of exposure.

For giving very long exposures to "interiors" and other dark places, pull the cord half-way, the Shutter will then keep open any length of time without holding the pneumatic ball.

Duration of Exposure.

With this Shutter any length of exposure can be obtained, from 1-90th of a second downwards, or it can be kept open for any number of seconds.

To get an exposure of $\frac{1}{4}$ of a second set the Shutter for "Time," then squeeze the ball as rapidly as possible and as rapidly let go. For $\frac{1}{2}$ a second give a more decided squeeze and let go.

These short exposures can be obtained, because this Shutter works with *one* squeeze, but they cannot with those shutters that require two squeezes.

Absence of Vibration.

There is absolutely NO VIBRATION, owing to the fact that the moving parts are extremely light and perfectly balanced.

Consequently the Shutter does not injure the most expensive lenses, as is commonly the case with heavy shutters that shake or jar. Many a photograph is completely spoiled by the shaking of the camera during the act of removing the lens cap.

Fitting to Various Lenses.

The Shutter is easily fitted to the hoods or tubes of various lenses by means of Rubber Adaptors (see page 17). Perfect fit can be obtained by means of a screw adjustment. Purchasers should see that the Shutter fits the lens *perfectly*. The Shutter can, if desired, be screwed to the front of the camera so as to work behind the lens, as on the "Ruby" Camera, the lens being mounted on the front. The Shutter can be supplied with additional loose panels for other flanges, so that various lenses can be used; the panels fasten into the Shutter just as they would into the camera front.

Various Advantages.

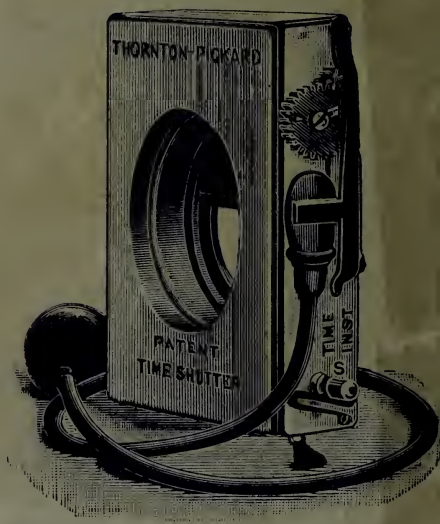
It is the best all-round Shutter in the market, and is suitable for *every* class of work. It is theoretically and practically what a shutter ought to be. It is quite "up to date," and is made to stand all climates. It is not liable to get out of order. It is very suitable for detective or hand cameras. It can be used with any stop in the lens. It will work upside down, sideways, or in any other position. The tassel shows at a glance whether the Shutter is wound up or not. It is reliable, simple, well made, and of best finish. When used before the lens it protects the lens from dust, dirt, moisture, sea spray, &c.

Theoretically this Shutter gives slightly more exposure to the foreground, but practically it gives equal illumination all over the plate.

DIRECTIONS

For Using the

Thornton-Pickard PATENT SHUTTER.



The blind is wound up for exposure by pulling the cord as far as possible, and is released by squeezing the pneumatic ball.

Time Exposures. If a prolonged or "Time" exposure is desired, place the pointer at the word "TIME," the Shutter will then open immediately the ball is squeezed, and remain open until the pressure is released; thus an exposure of any desired length may be obtained.

For "Time" Exposures it is advisable to have *very little* tension, for which purpose press the small click-spring which catches in the speed-knob **S**; this will release the knob and allow the spring to run down. In case the spring is allowed to run down too far, give the speed. knob two or three turns, until the tension is sufficient to make the blind work.

This is not necessary if a Speed Indicator is fitted.

Instantaneous Exposure. For this the pointer should be moved opposite the word "INST."; the Shutter will then give a rapid exposure as soon as the ball is squeezed.

The speed may be varied by means of the small knob marked **S** in the illustration; each turn of this increases the rapidity; if the spring-catch is pressed away from the knob the spring will run down as explained above, and the Shutter work slowly.

Speed Indicator. For a small extra charge we fit an Indicator for showing the speed of the Shutter (see page 18); this is a great acquisition. When this is not fitted an ivory label is fitted instead. This shows the highest and lowest speeds, and is fitted free of charge.

Exposing Interiors or other dark places which require a long exposure. This may be done without squeezing the pneumatic ball all the time. Simply pull the cord half-way, and leave the Shutter open until the exposure is finished, then squeeze the ball and the Shutter will close.

Do not oil the Shutter, or do so very sparingly, as the mechanism does not require it. If any oil gets on the blind it will make it sticky. This, however, can generally be remedied by sprinkling on the affected part a little powdered black lead.

The ball is joined to the tube by a screw connection, see page 16. If the ball becomes deflated, it may be unscrewed from the tube; it will then re-fill with air, and after screwing up tight again is ready for use.